

# CAR CRAFT

**CAR CRAFT**

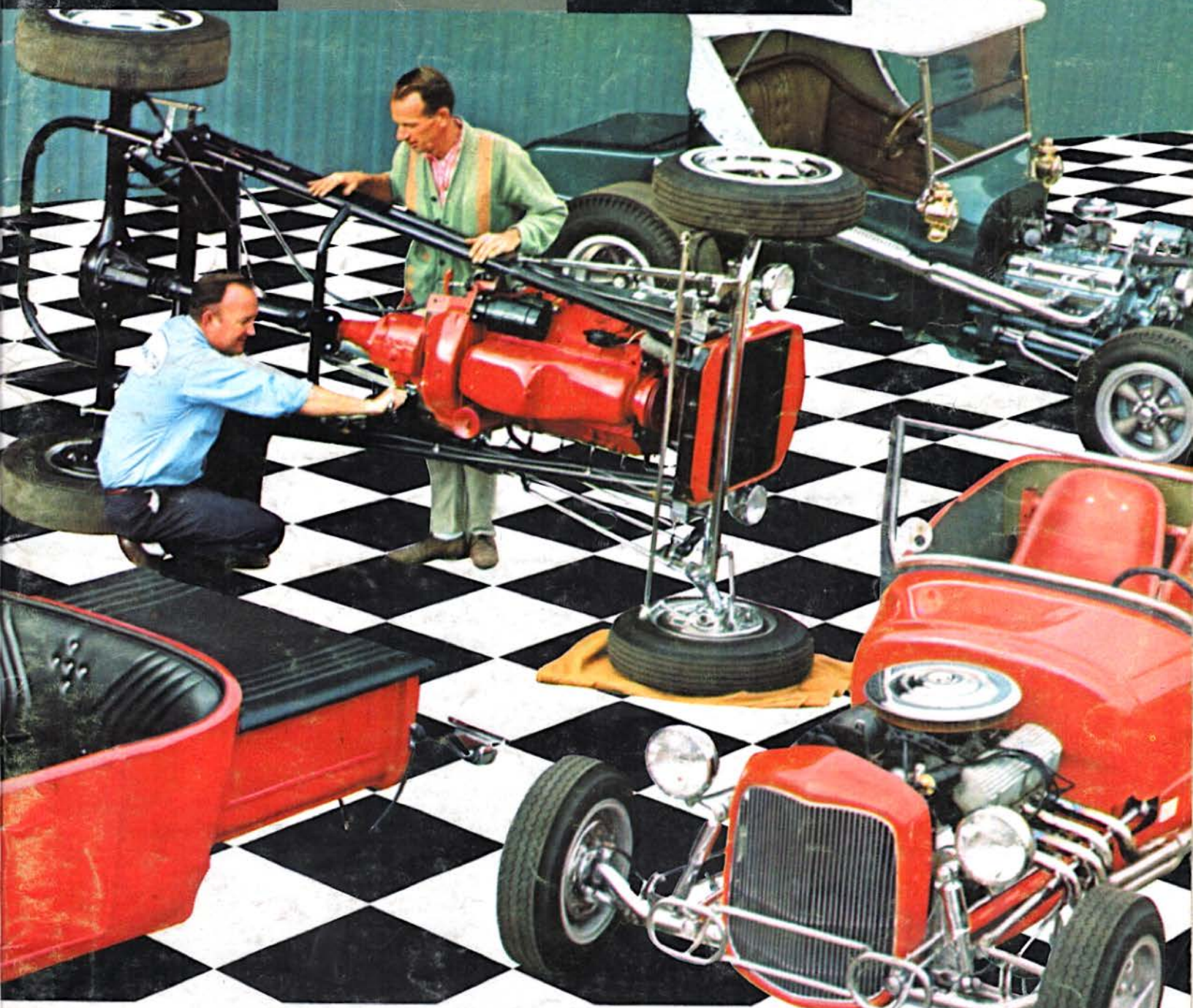


JULY 1965 • 50¢

THE AUTOMOTIVE GO & SHOW MAGAZINE

CAR CLUB ROAD TEST:  
**WORKING OUT THE  
OLDS F-85 4-4-2**

**SUPERCHARGERS**  
Make 'Em Go - Not Blow



**ROADSTER FROM A KIT**

**RACE DRIVER  
BUILDS A ROD**



## This Plymouth idles at 30 mph.

The '64 "Melrose Missile" and its driver went hauling to Top Stock Eliminator at NHRA's 1964 Winternationals. And the new 1965 "Missile" (shown above) is presently making mincemeat of last year's records.

The 426 Hemi is at the heart of the matter, of course.

If last year's Plymouth Super Commando 426 Hemi was a full house, then this year's is a

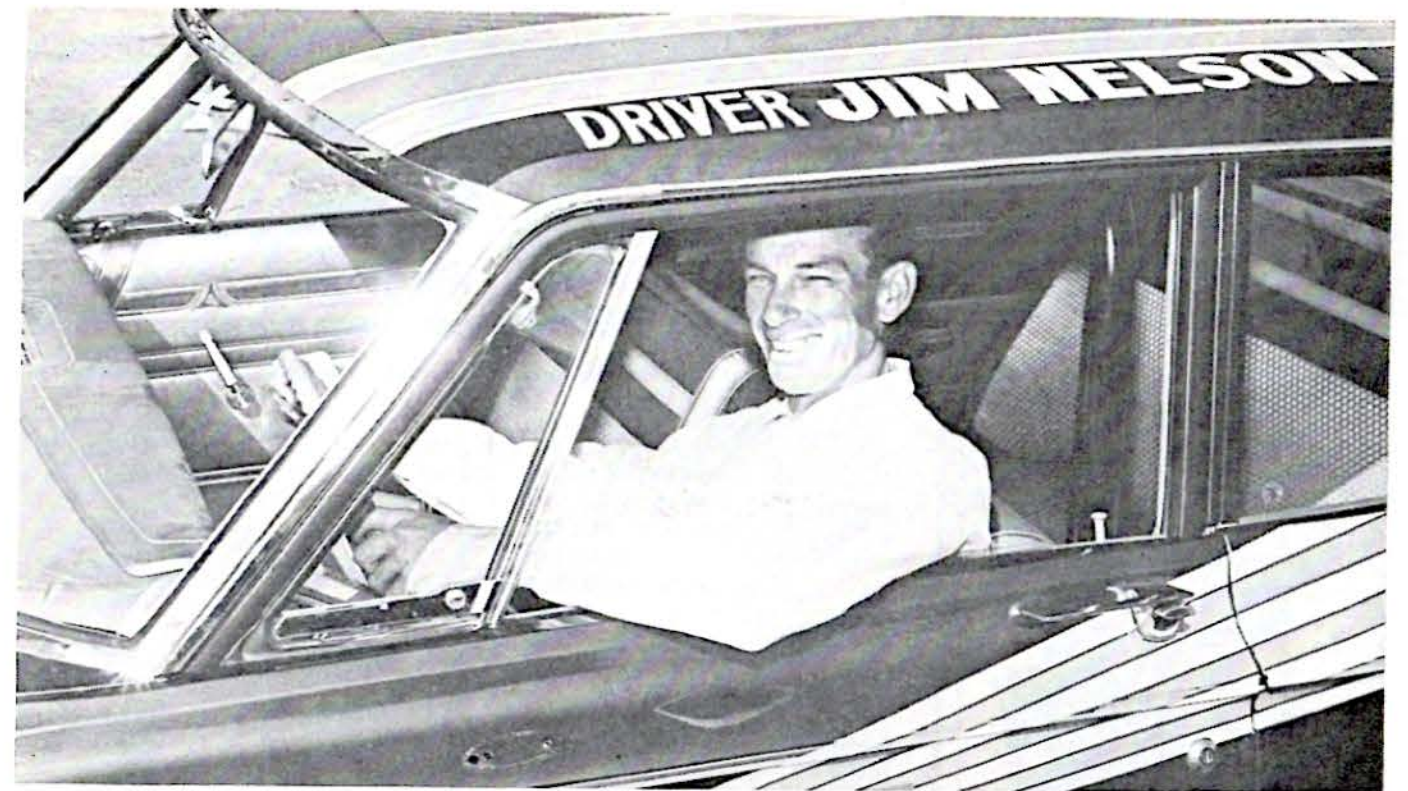
straight flush. The '65 Hemi has been improved. It has a magnesium intake manifold. Aluminum cylinder heads. More chrome on the valve stems. A longer duration camshaft. Aluminum oil pump. Valve relief in the pistons. And a roller type timing chain for increased durability.

Our engineering staff's bulletin reads: "The Plymouth Super Commando 426 is designed to be

run in supervised, sanctioned competitive events." With twin four-barrel carbs, ram-tuned intake manifold, non-silenced air cleaner and equal-length streamlined tubing exhaust headers—this is the engine to beat.

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THE ROARING '65s  
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**Plymouth**



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"The Automotive Go & Show Magazine"

# CAR CRAFT



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PETERSEN PUBLISHING COMPANY ADVERTISING OFFICES: CALIFORNIA, 5959 Hollywood Blvd., Los Angeles 28; MICHIGAN, 2208 Detroit Bank & Trust Bldg., Detroit, Mich., 48226; ILLINOIS, 430 N. Michigan Ave., Chicago 1; OHIO, 601 Rockwell Ave., Cleveland 14; NEW YORK, 770 Lexington Ave., New York 21.

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PUBLISHED MONTHLY, VOLUME 13, NO. 3



22 "The driver always had absolute control."



30 "Keyed up with a capital 'K'."



34 Lightin' 'em up in the Carlsbad hills.



58 There's a right way to set up a blower.

## COVER

On this month's cover, Dode Martin (kneeling) and Jim Nelson, co-owners of Dragmaster Company, display some of the wild "kit roadsters" they've made available. It's all ably explained by Tex Smith in the feature, "Roadster from a Kit," on pages 26-29 of this issue.

—Photographed by Pat Brollier  
CC Action Showcase (photographed by Dave Shipman)

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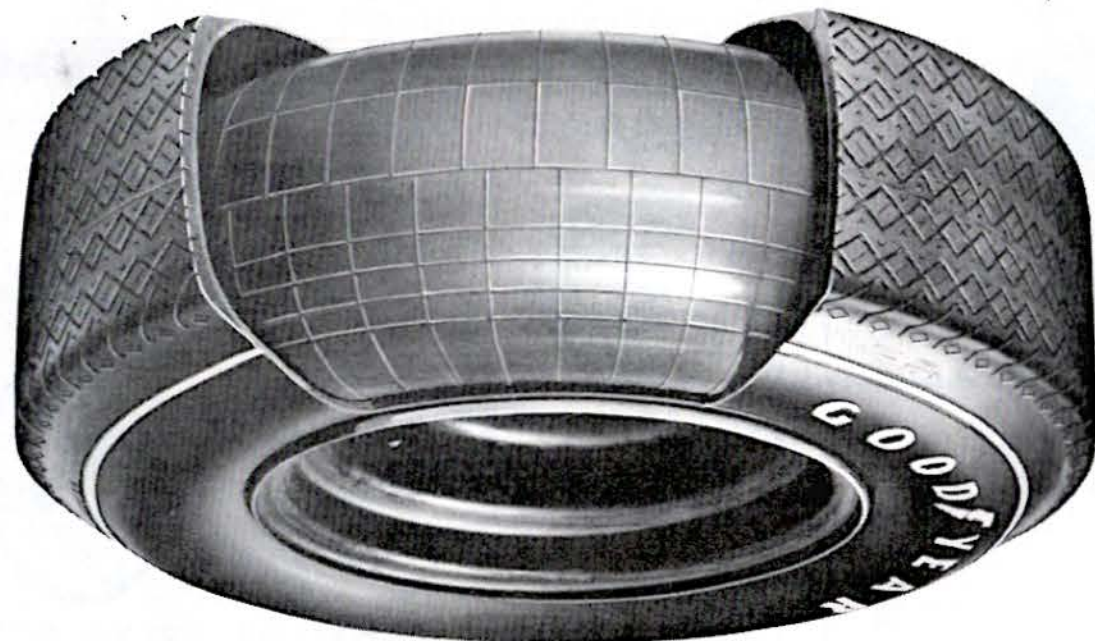
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## Panch and Foyt took the Atlanta 500 on Goodyear tires. But we're just as elated about the guy who finished fourth.

"I was in fourth place, hitting about 150 miles per hour. In the middle of a turn, I heard a tire blow out. When this happens, you're lucky just to get off the track in one piece. But that new Goodyear Inner Tire took over. Kept me safe. Out of trouble.

I was able to make the pits for a tire change. Those Goodyear tires let me finish the race. But more than that, the LifeGuard Inner Tire saved my neck."

Dick Hutcherson →



Like Panch and Foyt, Dick Hutcherson rode on a combination of Goodyear Blue Streaks with LifeGuard Inner Tires inside.

Here is a tire with one purpose. Extra safety. If the outside tire should fail, the Inner Tire takes over.

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But you don't have to race to get this kind of protection. Goodyear makes passenger tires with the same extra safety. Just ask your dealer to show you the Double Eagle or the Custom Power Cushion. Both are available with the LifeGuard Safety Spare. A tire within a tire. From Goodyear, the safety-minded company.

**GO GOODYEAR**

More People Ride On Goodyear Tires Than On Any Other Kind

CAR CRAFT



JULY 1965

## POINT of VIEW

● Some very interesting news crossed our desk this week, and though it may seem a little out front of the planned activity, I'm sure there will be many interested in the announcement. A couple of months ago we discussed the very successful steps taken by the speed and custom manufacturing industry regarding their first, exclusive Speed & Custom Equipment Trade Show. The big industry bash took place at the Disneyland Hotel in Anaheim, California, and was a complete sell-out. In addition to the guarantee at the close of the show that practically all of the seventy exhibiting manufacturers would be back in force in '66, tremendous excitement in the trade has continued which promises to make next year's show bigger and better than ever with many new industry booths lining the aisles. SCEN, the industry trade journal that hosts the show, has released the dates for the 1966 exhibit and more complimentary dates could not have been conceived for all practical purposes. February 20th thru the 24th is the time for the five-day affair with the Disneyland Hotel again serving as the showcase. But more important is the fact that the show comes right on the heels of the 6th annual NHRA Winternationals championship drag races at Pomona, February 18-20th. This means that everyone coming to the coast for the Winternationals can parlay their time and take in both major events. The trade, I'm sure, will welcome the timeliness of the schedule as well as other related parties. Even though floor space has been increased over last year's exhibit, booth space is still regarded as premium and is being reserved early. Information can be obtained by writing: SCEN Publication, 10347 Calvin Ave., Los Angeles, California 90025.

—Dick Day



● It has been six months since we came out with the "All New" Car Craft Magazine. Since that time the pace has certainly been a hectic one. The entire staff has continually been on the go for the latest developments in hot new engines, cars, and products. We have been attending big drag events to bring first-hand information on this exciting aspect of the sport. The object of all this, of course, is to keep our readers up to date on the latest happenings of all things automotive.

There have been many articles, features, departments, etc., that heretofore have never been seen in Car Craft, and in some cases, any automotive magazine. With the constant running to keep up this pace, we haven't really had time to stop and see what everyone thinks about the "new" book. Of course, the mail we have received has been very favorable, and everyone seems to think it is the greatest thing that has ever happened. But we have not yet asked for opinions. We are taking this opportunity to do so. With the new concept being in effect for six months now, we are sure that all of you have formed opinions on it. Here is your chance to let us have them. We would like to know your feelings on the new magazine, be they on departments, articles, features, types of cars, etc. We are especially interested in your opinions concerning our car club road tests, motorcycle tests, full-color action centerspreads, Tool Tips, Straight Scoop, Dipstick and CC/Gassers. Not only the ones that you like but also any that you don't particularly care for. Also, if there are any areas you feel we have left out, abandoned, or overlooked, we would like to hear about these.

After all, we are putting out this magazine with one purpose in mind—to please you. The best way that we can do this is to know what you want. It is no easy game, but with your help it will be pretty hard to miss.

—Don Evans



● At a recent northwest drag event, a dragster driver who had just been told his roll bar wasn't high enough was overheard arguing furiously with the tech man who had made the decision. Finally, the racer was told to get an extra hoop on his rail or he wouldn't be allowed to run. Grudgingly, he headed for the nearest town, got the job done and returned to the meet. As it happened, on his first trip over the quarter his rig got a little crossed up—and flipped. The driver was unhurt and, as soon as he climbed out of his still-intact cage, made a bee-line for the tech-in area where he gave his former antagonist the only trophy a tech man ever gets, a heartfelt "Thank you."

That driver, among others, is now a ready proponent of the safe roll bar. Still another handler, in another section of the country, is an eager defendant of the scatter-shield—for much the same reason. A third driver is just as excited about fire suits—he got burned, once.

In fact, nearly every drag racer has his own pet safety feature, either because he once had a narrow escape or because he had been witness to a tragedy. Sad, isn't it, that the helmet is often donned on an already bandaged head? Sadder still is some of the reasoning behind these avoidable accidents: Some guys just don't believe in certain rules; they haven't had their lessons—yet. Others, the real dangerous ones, get their kicks by simply getting away with something; they'd slip through tech with a car made of matchsticks, if they thought they could make it.

But the weakest reason is that old argument that many of the safety features cost too much money; that the "little guy" racer just can't afford them. This excuse just isn't valid.

Suppose you were told by a physician that you had only one month to live, unless you subjected yourself to some very expensive treatment. How much would you be willing to pay, then—to save your life?

—Cec Draney



● On the national drag scene the most popular cars running today appear to be the "Match Race" machines. About six or eight years ago it was the Gas Coupes and Sedans with their wild wheelies and screaming 130 mph runs that were the crowd pleasers. A few years ago the factory sponsored "Stockers" and finally the FX'ers began to get their share of the applause as these highly tuned cars began nudging the 130 mph mark, running way down in the 10's. Of course the dragsters and altereds still get their portion of the glory, and money, but it's the big "stock" bodied jobs that really pull in the crowds at drag strips all over the country. A glance at the ads in the many drag newspapers will attest to this fact.

A few rear-engined supercharged stockers have made the scene recently but the latest type of stock-bodied car to astound everyone is the Match Race car. These vehicles feature all fiberglass body components except the top and shell itself. The front ends are generally of Anglia, Valiant or other light components moved ahead a few inches. Around back the rear axle assembly has been shifted forward anywhere from 5 to 20 inches, getting the wheelbase down to around 95 inches (somewhere near most "T" roadsters).

Performance-wise these cars are nearing 140 mph and are into the 9-second bracket at the drags. Ronnie Sox recently broke into the 9's as did Arnie Beswick. Dick Landy and others are also causing more excitement by doing wheelies through both first and second gear than they are by turning in runs of 135-plus mph. A couple of Match Race cars currently being built include a '65 Chevelle with a 396-inch in it and a Marlin with 327" power. Both cars are strictly Match Race material, of first class calibre, and will be seen shortly in CC.

—Bud Lang



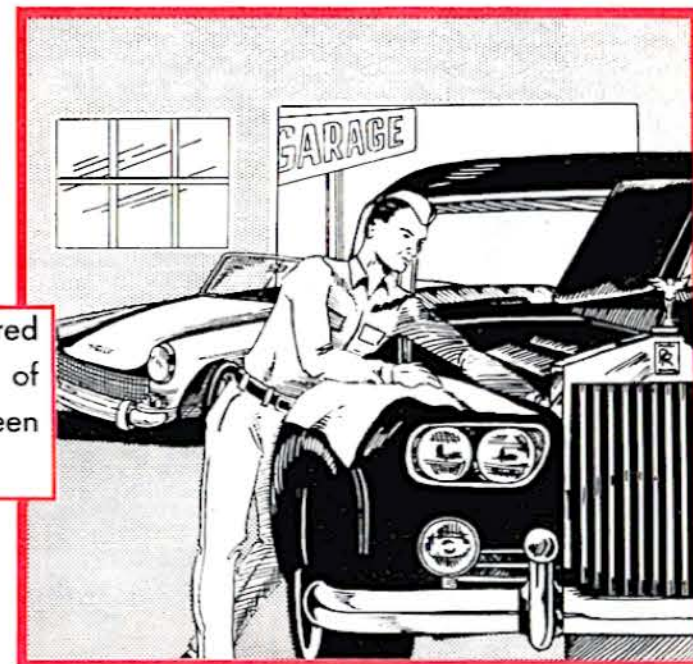
CAR CRAFT

## Did You Know...

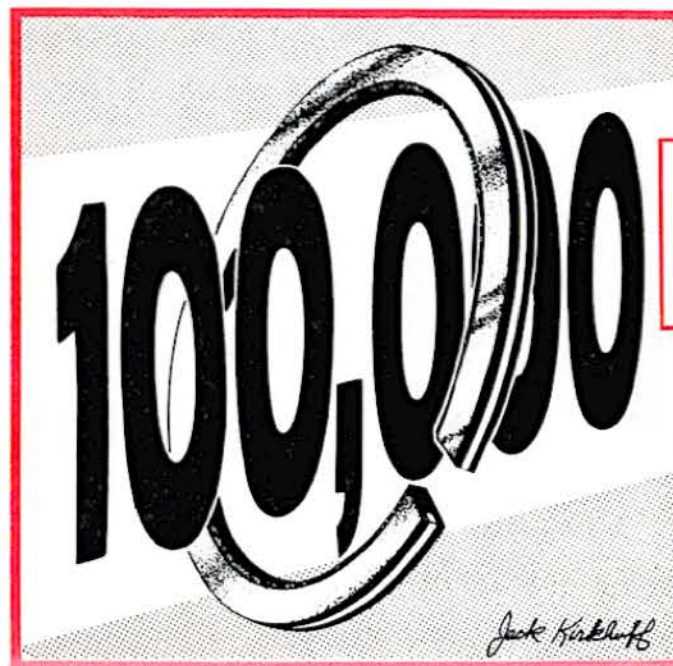
by Phil Brady



The flexible roller chain used on today's motorcycles (and some auto timing chains) was designed and perfected by Leonardo da Vinci more than 400 years before motorcycles were invented.



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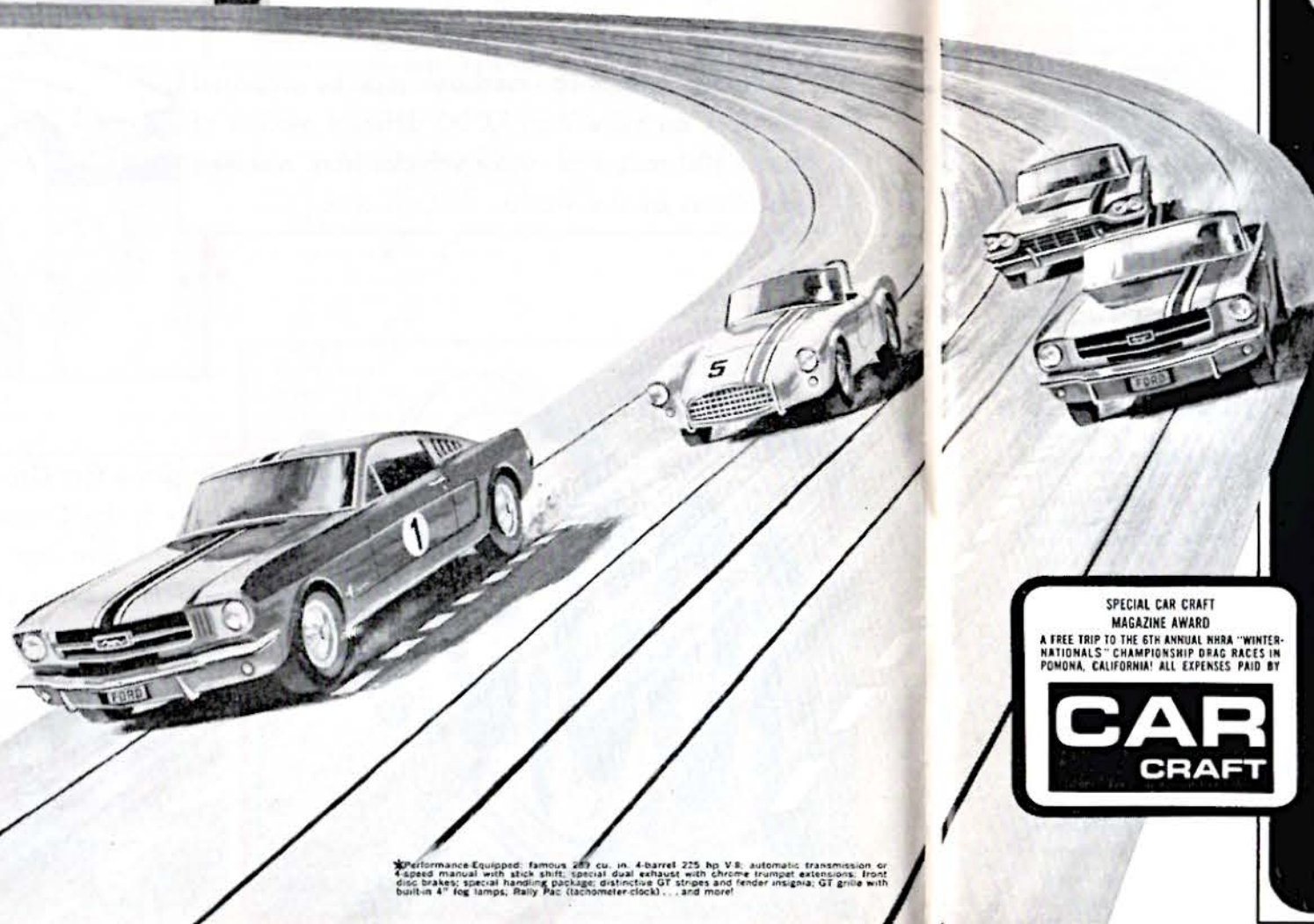
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# MAIL RUN



## From the Stockers

Just finished reading the April issue of Car Craft, which is only one of the many I have bought and read. But this one concerns me personally. The reason being is that you did an exceptionally good coverage on the *Winternationals* and stock cars. Being president of the newly formed *Stocker's Association*, stock cars have a special spot. The *Dutre & Dutre* car, which I think you did a very good job on, is one of the two hundred and seventeen members of the Association. This Association is sort of a union for all self-starting cars, not just stockers.

Most magazines just give a quick glance at stockers and a full coverage on dragsters. They seem to forget what a drag strip would be... without stockers, FXers, gasers, modified production cars. I often wonder if they realize that you don't just come out and be a big name the very first meet you participate. Actually, if you were to survey budget for budget, the guys like Ernie Dutre spend just as much money as the guys like Jack Williams or Don Garlits.

I am also a N.H.R.A. Tech man and have worked at the last two *Winternationals* and have also Certification crew for *Bernie Partridge* and Division seven. I have noticed that there are always at least five-to-one stock cars to dragsters... no adequate coverage. Why? Are they considered the little men? I think you did a very good coverage on the meet, and I was told to tell you thanks from the members of the *Stocker's Association* and to ask you to keep the good coverage coming.

We have members from as far as Maine, Ohio, Minnesota, and Indiana... the Association hopes to get larger and stronger. The Association has had several meets... also we are proud to say that we have such outstanding names as Cecil Yother of Melrose Missile, Dick Landy of Automotive Research, Tom Groves of Broadway Ford, Ed Terry of Broadway Ford, and many more.

CLOY FITZGERALD  
Berkeley, California

## Mucho Horsepower

I find it extremely hard to believe that Ford can produce a 289 legal for B/FX which can deliver 721 hp as mentioned in "The Straight Scoop" in the May 1965 issue... especially considering that Tony Nancy's 426 hemi produces 757 hp supercharged. Please explain.

RONALD WEINGER  
Valley Stream, N.Y.

I just finished reading your mag cover to cover and liked every bit of it. I have just one question to ask you: In "The Straight Scoop" the article "Word was going" you stated that, "A 289" job with solid lifters putting out 721 hp." Is this horsepower correct... or am I wrong with my ideas of what

a "289" will put out?

You have a wonderful mag, so keep up the good work.

HERMAN KRUGER  
Mulliken, Michigan

It was supposed to say "271 hp." — Ed.

## Barnett's 'Vette

Enclosed are some photos of my completely modified 1954 Corvette. I bought it three years ago, wrecked. I have installed a 1956 Oldsmobile engine with heads polished and milled, a three quarter cam, solid lifters and adjustable rocker arms, with an AFB carb. I also have a beefed 4-speed hydro by Fish, plus a 456 Oldsmobile rear end. There are American mags in the front and Chrome Reversed wheels in the back. So far I have about \$1500.00 invested. I have plans for a custom interior which is now stock Corvette;



I also am in the process of padding and covering my hard top with metal flake vinyl under clear plastic.

I have won two trophies so far in AM/SP at Fontana Drag Strip, and I have plans for a few more (I hope). I am 31 years old and work at Kaiser Steel, and I would appreciate a picture of my car in your fine and informative magazine.

HAROLD BARNETT  
Fontana, Calif.

## Way Ahead Of You

I was down at the newsstand yesterday, and I bought your magazine. When I took it home and saw the centerspread, I went wild! The reason I wrote this letter was to tell you how I like the new Car Craft. I thought your CC/Gassers was the coolest of 'em all. And the new addition of Car Club Road Tests is very interesting, as the rest of the book is.

In my own opinion I think Steve Swaja has done a lot for Car Craft... so three cheers for Steve!!

Since you put a pic of Bransters' "WAGON" in your magazine, so how about a story? Please! Your cartoon pal, Dipstick, is really stoke. Why don't you run some stories of the rods out in Detroit (the mill city) Town? We have some "cool rods" too.

I think you should put a little more model jazz in your mag for the little dudes that can't drive and can't afford the real thing. I also thought that your cover was very nice on the March entry to my CC library. I dig

the color inside the mag too... it really swings and sings. The M/T auto show coverage was great!

JOSEPH CAROL  
Dearborn, Mich.

P.S. Tell Steve his drawings are Swaja!!! We ran the first complete article on Dick Branster's "Little Red Wagon" in the December '64 issue.—Ed.

## Digs Us... But!

I could not go on subscribing to your swell magazine without a word of comment on your "All New" CAR CRAFT, started Feb. 1965... it's the GREATEST!

I think the "Hot Hemi" on the cover of your May '65 issue is the most beautiful cover I've seen on... ANY magazine... ANY time. I'm really gassed over your 4 page color spread every month (in particular the *Action Showcase*) and the "CC/Gassers" and "Dipstick."

Here are just two suggestions for you to make your mag better. First, I fully agree with your readers who want William Moore's "From Mild to Wild" section back in the pages of your magazine. Secondly, I wish you would expand your now skimpy model car section to 2 to 3 pages like in your '64 issues, and add a model car column once again.

NIELS FOG  
Burbank, California

## Not This Time

In your April edition you have confused me. In the article "Fast Days at Phoenix" you have Bud Fauble pictured as winning Mr. Stock Elim... and at the bottom of the same page is a picture of Dave Strickler and Bud. Below the picture it says Strickler shut down Mr. Fauble and was shut down himself by the Ramcharger's. On the following page of the same article, second paragraph from the bottom you say and I quote, "while Bud Fauble kept alive by knocking east coast's Dave Strickler." Do I find an error or am I really confused?

I live only 28 miles or so from Mr. Fauble, and am a '65 Coronet owner myself... I'm trying to defend *The Dodge Boys*.

GRAYDON MCMULLEN  
Dry Run, Pa.

No goof this time. The caption said they ran against each other in time trials. It did not say that Strickler shut down Fauble.—Ed.

## Still Around

I have been reading your fine magazine for about three and one half years... I am sixteen years old. In my opinion it is the best on the market.

I am a drag racing fan all the way; and, although drag racing is not as popular, as of yet, as sports car racing and rallies, it is beginning to take hold fast, as in eastern Canada.

I am an Olds fan and I especially enjoy seeing a nice hot Olds powered drag machine.

I am especially puzzled about Hugh Tucker... I have not seen his name mentioned in the coverage of major drag events. Has he retired from the sport or did he sell his rod? In my opinion, his blown Olds powered '28 Chevy AA/SR is (or was???) the wildest street roadster on the continent.

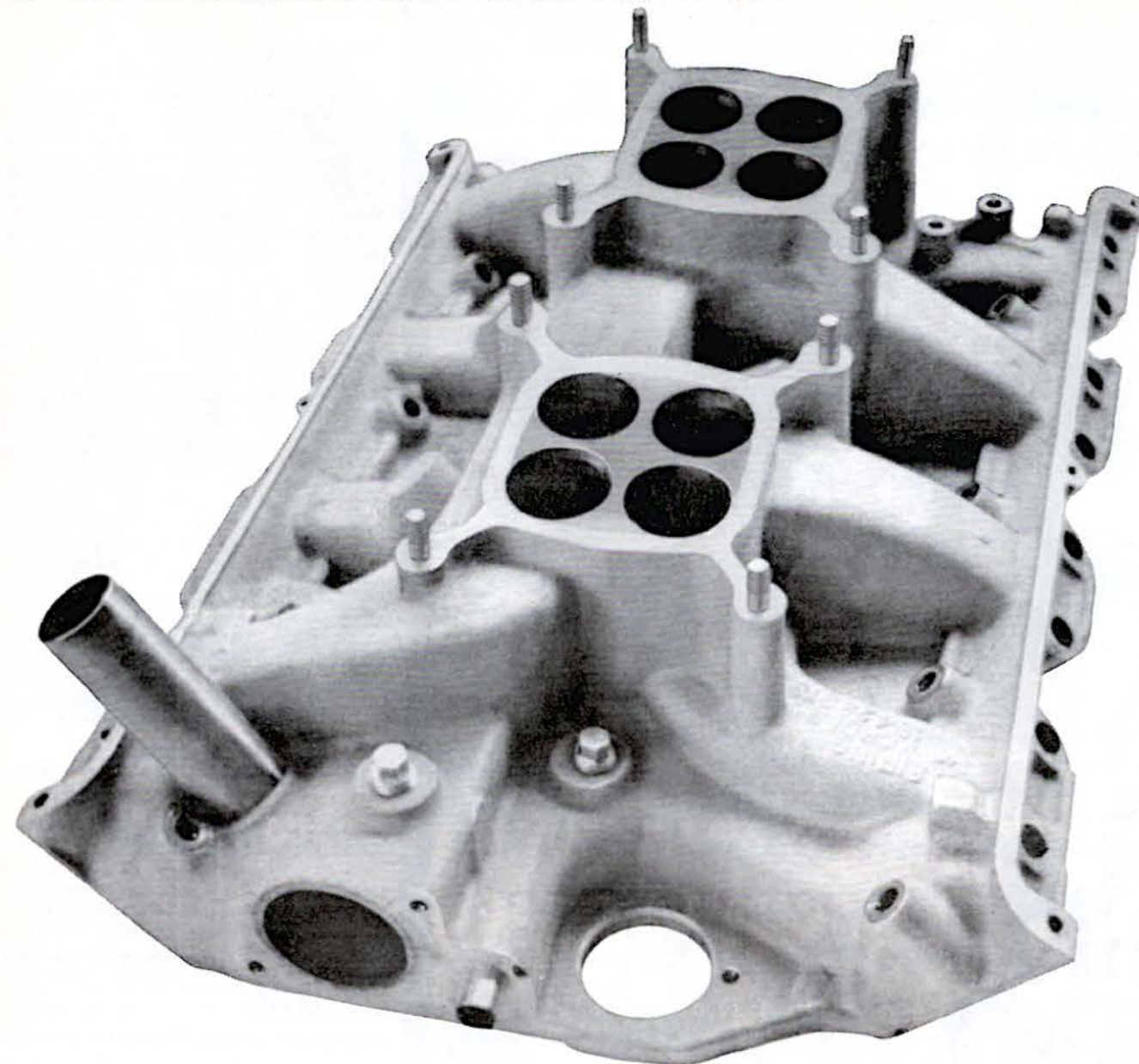
RONALD BURR  
Lethbridge, Alberta, Canada

I guess you've just missed. Not only is Hugh still around, but he's going better than ever.—Ed.

(continued on page 14)

CAR CRAFT

RIDE WALT DISNEY'S MAGIC SKYWAY AT THE FORD MOTOR COMPANY PAVILION, NEW YORK WORLD'S FAIR



## Here's what can happen when you build a foundry too close to a Swiss cheese factory

You get giant holes in your intake manifold. So the only solution is to bolt eight-barrel carburetion on top and tuck a Ford 427 block underneath, and cop the title of World's Strongest Sandwich (stock division).

Seriously, this is merely a reminder that Ford doesn't stand still, even with a great engine like the 427 High Performance V-8. Peel one open now and you'll find machined combustion chambers, a lighter weight valve train, bigger and lighter hollow-stemmed valves, a forged steel crank with hollow crankpins, stronger con rods, pop-up pistons and a huge oil gallery low in the block (which also is new) that feeds oil directly to the main bearings.

No big engine has a right to rev the way this one does—

but it does and it stays stuck together. Better still, you don't have to be an insider to get one of the good ones; this is a John Citizen engine. It goes the way it goes right off the showroom floor.

As always, Ford wraps this one up with heavy-duty springs, shocks, wheels and tires to match. That's just

Best year yet to go Ford!  
Test Drive Total Performance '65

**FORD**  
MUSTANG • FALCON • FAIRLANE  
FORD • THUNDERBIRD  
PRODUCTS OF Ford

Need a set of wheels? For about 30c a day you can own and ride a brand new 1965 LARK! Exciting new high-lift bars, banana seat and jet-smooth frame! Sold only by Bird engineering, worlds largest direct seller of mini-bikes.

## Buy Factory Direct

A new 2 cycle engine sparks this little charger to speeds over 25 mph!

**LARK**  
by BIRD engineering



**\$129<sup>95</sup>**

**\$10 Down  
\$8 Month**

Deluxe LARK with headlight, taillight, mirror, fenders, horn and racing slick only \$149.95 complete.

### STANDARD LARK

- 2 Cycle 2 1/2 hp racing engine
- Automatic clutch
- Painted metallic blue

Fully assembled... add gas and GO!

Want to win kart races? Bird engineering has designed the all new 1965 EAGLE to do just that! Weighing less than 93 lbs, the EAGLE comes to you fully assembled ready to bolt on your favorite power plant.

**\$159<sup>95</sup>**

Superb handling engineered for total performance. Track proved!

Save Almost 50%

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by BIRD engineering

**\$10 Dn.  
\$9 Mo.**



### Standard EAGLE

- Twin Engine Mounts
- Aluminum Live Axle
- Aluminum Nassaw Panel
- Painted racing metallic blue
- Black British calf upholstery
- Heavy Duty internal expansion brake

Deluxe EAGLE with racing slicks, chrome fuel tank only \$179.95. Delivery to any point in United States less than \$15. Immediate shipment.

**RUSH YOUR ORDER!**

**Send only \$10!**

## TIME PAYMENT

With Bird engineering time payment plan you can pay-as-you ride! Send \$10 with coupon.

Save \$10 Crating Charge If you send the full amount with order, you will save \$10 crating charge. All sales final.

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P. O. Box 427, Omaha, Nebr. 68101

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HURRY and RUSH my .....   
(I enclose my \$10 down) .....   
(I enclose full amount) .....

Name .....

Address .....

City ..... State .....

CC-1E7

## MAIL RUN

(continued)

### Double A

I have subscribed to *Car Craft* for two years, but when last year's subscription ran out I was going to leave it at that. Then I saw your February issue... the improvement was overwhelming. Your drag coverage is 100% better, and it's great to see so many new and informative sections in your magazine. "Straight Scoop" is too much. I have been looking for a department of this type for a long time, but I must admit... I never thought *Car Craft* would be the one to introduce it.

I was shocked, however, to find that you had removed "Restyling From Mild to Wild." This was one of the best sections in your mag, and I for one hate to lose it. Otherwise, you are doing a great job. I'm glad to see *Car Craft* go from mediocre to Double A.

PEYTON COYNER  
Richmond, Virginia

### Bike Fan

I would like to say that I thought the cover on the May issue of your magazine was a work of art. Your previous covers have been good, but you really outdid yourself on this one!

Also I enjoy reading your tests on light-weight motorcycles. However, I was wondering if you could possibly test a medium weight now and then?

DANNY COOKE  
Columbia, S.C.

Will do! - Ed.

### We're Getting There

Used to be that *Hot Rod* mag was the "Big Daddy" of car magazines, but since your new edition of *Car Craft* came out with all the new features... I don't know! Even the ads have got neat pictures. The only thing that I have to complain about is that you don't have enough stock car stories and features. Other than that your mag is BOSS... MOOGALONIE is the word for the CC Action Showcase.

I agree that California drag racing is real hot... but Texas drag racing isn't exactly a block of ice. I live close to one of Texas' largest and best raceways - Houston Drag Raceway.

More "Stockers" are on their way. - Ed.  
TERRY GREEN  
Angleton, Texas



"What do you mean, 'Do you want to look under the hood?' What's a hood?"



A PRODUCT OF Ford MOTOR COMPANY • LINCOLN-MERCURY DIVISION

**It was cold in February...  
except where the Comets were running**

## Hot results from the tracks

Feb. 12	Daytona—NASCAR Speed Week	A/FX	E. Schartman	Topped 36 SS to win Super Stock Eliminator at times from 10.70 sec. to 10.80 sec.
Feb. 20	Albany, Ga.—U.S. 19 Strip	A/FX	A. Beswick	Took on all comers, won top money with times to 10.88 sec.
Feb. 21	Atlanta, Ga.—Yellow River Strip	A/FX	D. Nicholson	Winner, with 1/4-mile times of 10.54 sec. and 10.52 sec.
Feb. 21	Houston, Texas Dragway	B/FX	D. Nash	Ran exhibitions, set new track records: 11.70 sec.

It gets warm when competition-modified Comets wail. Ask the competitors. And you get a warm feeling at your Mercury Comet dealer's, too. Something about the heft of Comet does

it. And the solid way it's built. And the pure beauty. And the big things that happen when you sit behind the wheel. So visit your Mercury Comet dealer's showroom. It's a real hot spot.



**Mercury Comet**

the world's 100,000-mile Durability Champion

DRIVE WALT DISNEY'S MAGIC SKYWAY AT THE FORD MOTOR COMPANY PAVILION, NEW YORK WORLD'S FAIR





**GENERAL MOTORS IS . . .** said to be planning to bring out a low-price, sports-type passenger car to compete more closely with the Mustang and the Barracuda, according to a story in the Detroit Free Press. Car is said to be called the "Panther," and is slated for introduction as either a 1966½ or 1967 model. The report says it will be sold by Chevrolet and also possibly by Pontiac dealers.

**CHRIS KARAMESSINES . . .** the charger from Chicago, has a brand-new dragster in action for the 1965 season. Called the "Plymouth-ChiZler," it's powered by a 426" 1965 Plymouth hemi-head engine. The new machine has a Kent Fuller chassis with rear suspension.

**DRAG STRIP OPERATORS . . .** all over the country breathed a huge sigh of relief recently when Chrysler Corporation and Ford Motor Company finally reached agreement about their factory-sponsored A/FX cars being able to run each other. Ford's A/FX cars for 1965 are Mustangs and Mercury Comets, powered by 427" overhead cam engines. Chrysler Corp. brought out hemi-powered Dodges and Plymouths for '65 with the rear axles moved forward about 15". These, unfortunately, were not "legal" for NHRA's A/FX class. For some time FoMoCo had been reported as not allowing its drivers to race any of these "altered" MoPars. The result was that strip operators could not schedule matches between these hot Chrysler and Ford products. Now Ford and Mercury have agreed that drivers of the AFX Comets and Mustangs may race these altered cars, as long as minimum weight for the MoPars is no less than 3200 pounds. Chrysler agreed to the increase in weight, so now drag fans all over the country are in for some mighty exciting competition as these A/FXers, the fastest the factories can produce, are battling it out once again.

**THE JUNIOR STOCK . . .** Eliminator of the 1964 Nationals, Phil Chisholm, will be running in a different class this year. He won Junior Stock at the Nationals in a '64 Chevy wagon that ran in I/SA. For 1965 competition, he's going with a 325 horsepower version of the new 396" Chevy mill that will run in D/SA.

**THE U.S. DRAG TEAM . . .** may find competition somewhat tougher when it travels to England this fall. Jerry Belden, an official of the British Drag Racing Association, recently purchased the Dos Palmas Machine Chevy-powered rail in which Bob Keith competed in England last year.

**TONY NANCY IS . . .** switching from gas to fuel after installing a 496-inch wedge-head engine in his "Wedge" dragster. Tony's also putting a wing at the rear of the car, above the rear wheels, to offset driver weight up front—something which has been bugging him of late.

**DANNY "THE WOLF" . . .** Ongais, whose remarkable career as a dragster driver has found him at the helm of such winners as the "Dragmaster Dart," Mickey Thompson's AA/D, the "Chevy Too" and the "Mangler" AA/FD of Broussard & Davis, is currently building his own rail. Running a blown Chrysler on a Kent Fuller chassis, the car will run both gas and fuel, depending upon Dan's needs at the time.

**BIG DADDY ROTH . . .** has just completed one dragster and is planning construction of a second. The first, soon to tour the drag strip circuit, was designed by Steve Swaja and features giant fins and other way-out goodies. Tenderly dubbed, "Yellow Fang," it boasts a blown Chrysler engine. As yet, there's no information on Big Daddy's newest rail.

**THE 11th ANNUAL . . .** NHRA Nationals, slated for Indianapolis, Indiana, Labor Day weekend in September, was approved as a "National Open" competition event and is listed on the ACCUS-FIA international motor sports calendar. A select portion of the event will be reserved for competition under requirements set by the international sporting code, with special emphasis and high prestige value as the principal objectives. The 6th annual Winternationals championship drag races, scheduled for February 18-20, 1966 in California, also gained ACCUS approval for listing as a full International event. Special categories of this event will also be conducted in accordance with FIA standards, for world-wide performance recognition.

**"THE VOICE OF . . .** Drag Racing," otherwise known as Jon Lundberg, started a new career in Detroit recently. He is now Performance Manager for Motor City Dodge, a new Detroit-area dealer. One of Lundberg's first acts was to put together a "performance package" that can go on Dart GT's and Coronet 440's and 500's. A car so set up will be known as a "Road Charger." In addition to Chrysler Corporation's heavy-duty suspension pack, the "Road Charger" will have backflow free exhaust, special cam with solid lifters, dual 4-barrel carbs, a high performance ignition system and a heavy duty swivel oil pickup and baffled oil pan. Other goodies include a Dodge SS fiberglass hood with racing hood pins, and a 9000 rpm Sun tach. Either a 383" or a 426" wedge engine can be had, along with special plaques on fenders and dash that inform the world that the car was "Custom Built for Joe Doakes." According to Lundberg, the car is for those enthusiasts who want a "good handling, high performance street vehicle." Lundberg plans to keep on with his drag race announcing as well.

**ANOTHER AMPHIBIOUS AUTO . . .** may soon be splashing around the waterways of America. To be called the Imp, the car will be a sea-going version of the Volkswagen, a car which made more than one water-crossing, thanks to the tightness with which it is put together. The VW will be transformed into the amphibious Imp by an Ann Arbor, Michigan, firm, International Marine Products Company. The only other amphibious car in production these days is the German-made Amphicar.

**THERE'S A HOT . . .** new Dodge Dart wagon dragging on the Southern drag strips these days. Called the "Cotton Picker," the car is set up by ace NASCAR charger David Pearson. It's powered by a 426" Dodge hemi engine that is located at the driver's right and extends somewhat behind him. The car made its debut at Greer, South Carolina in April. Don Nicholson was scheduled to run against Richard Petty, but Nicholson had some trouble and the strip promoter asked Pearson to fill in with the "Cotton Picker." Its best e.t. of the day was a cotton-pickin' good 10.33. With a combination like Cotton Owens and David Pearson involved, you'll probably hear quite a bit more about the "Cotton Picker."

**NORRIS FRIEL . . .** Technical Director of NASCAR, recently approved two versions of the 396" Chevrolet engine for Grand National stock car racing. One is the 425-horsepower model with solid valve lifters and four-bolt main bearings. The other is the 325-horsepower model with hydraulic lifters.

**THE DODGE DART . . .** GT hardtop with the 273" V-8 four barrel engine can now be turned into a first class drag racing car by your local Dodge dealer. Two members of the Ramchargers, Tom Hoover and Dick Maxwell, have prepared and sent out to all Dodge dealers instructions on how to turn the Dart into a real winner in NHRA's F/Stock class.

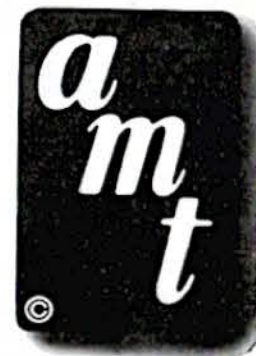
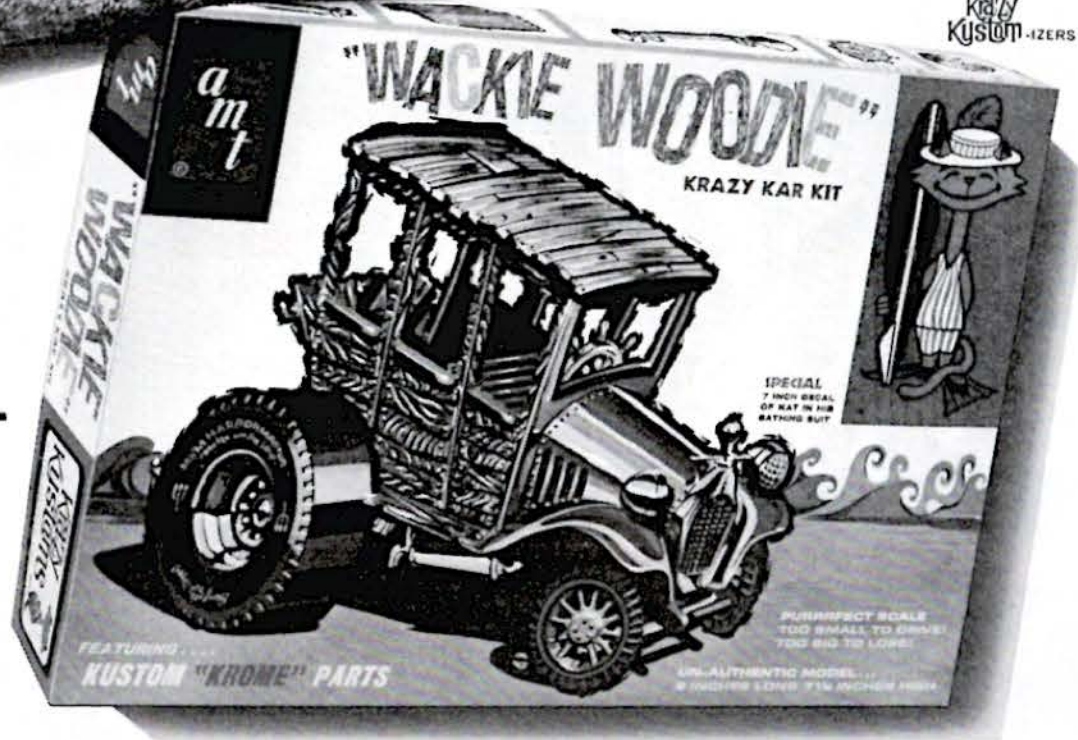
**DRAG RACERS IN . . .** the Detroit area are expecting any time to see some Chevrolets competing in the hotter stock classes. Rumors about Chevilles with 396", 425 hp engines persist, and those in the know believe these are more than mere rumors.

**THERE'S A . . .** "new engine" battle between Ford and Plymouth powered dragsters shaping up for this summer that should be followed with great interest by drag fans. On three different occasions, Connie Kalitta, with his overhead-cam Ford powered "Bounty Hunter" AA/FD, is slated to run a match race against the "Frantic Four" (Weekly-Rivero-Fox-Holding) in their new AA/FD rail with a 1965-model 426" Plymouth hemi-head engine. This is one match race that Detroit engineers will be keeping a close watch on.

**PEOPLE AT PLYMOUTH . . .** are most happy about the way the A/FX car of Ronnie Sox and Buddy Martin is performing. On a recent run, at York, Pa.'s US 30 Drag-O-Way, driver Sox turned the quickest e.t. recorded by any A/FX car up to that time, a sizzling 10.04, topping at 134 mph. Although not done at a record meet, the run was timed by a set of NHRA approved Chrondek clocks.

**DETROIT-AREA DRAG . . .** racing is "on the air" six nights a week until late October. Broadcast over station CKLW, the program is called "See You at the Drags," and carries news and results from four Detroit-area strips, plus interviews with outstanding drivers. The show is sponsored by Gratiot Auto Supply, world's largest hot rod shop, and is announced by Al Pierce, who is the regular mike man at Detroit Dragway. A big feature of the show is that every question sent in will be answered by an expert, and there is a special continuing contest for questions of greatest general interest. The lucky winner each week receives a year's subscription to Car Craft! Fiscal winners will get a bundle of prizes worth about \$500.

**CHAMPION SPARK PLUG . . .** Company appointed its first full-time designer of racing spark plugs just a few months back. Now, mainly because of the tremendous growth of drag racing, they have appointed a second full-time racing plug designer.



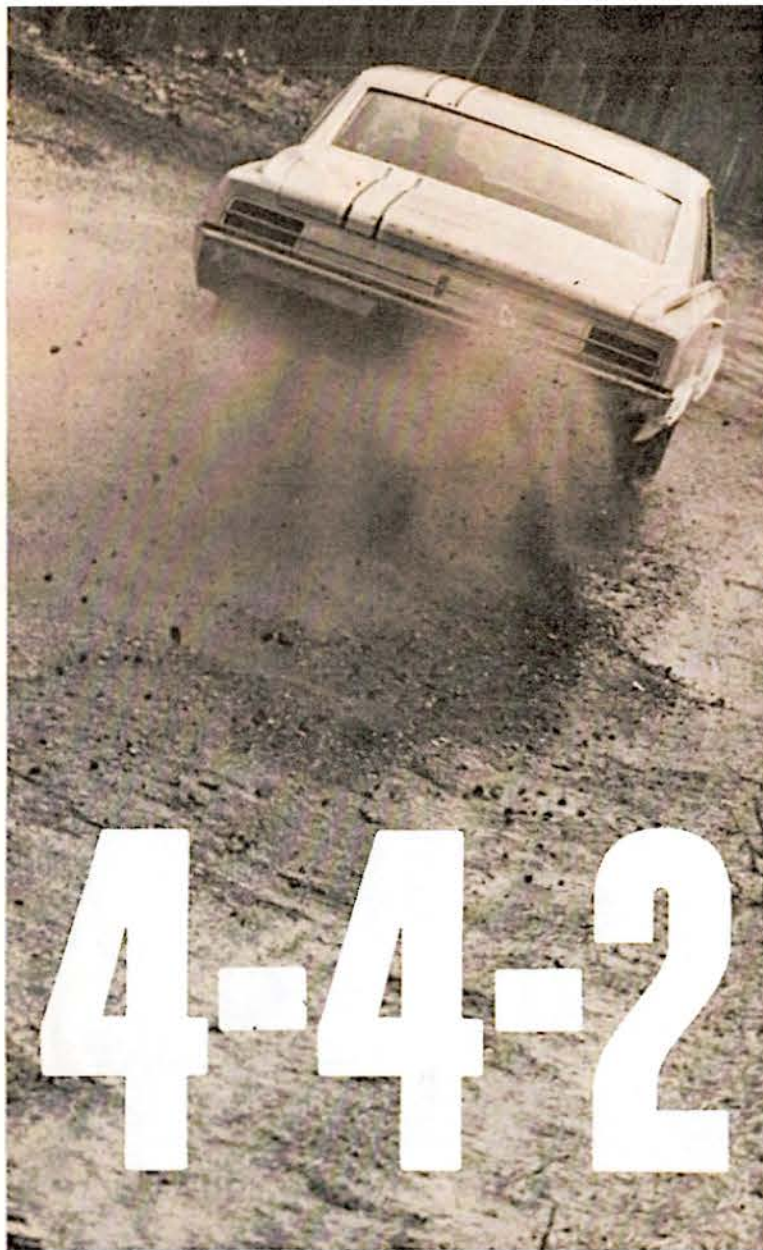
Kool  
Kollectors—  
Go  
Krazy  
Kustom!  
Go  
"VA-VA-VETTE"  
& "WACKIE  
WOODIE"

Dig the wildest, wackiest, kraziest Kustom kits. Genuine unauthentic models in Prrrrfect scale. They're too small to drive, too big to lose!

VA-VA-VETTE is eleven inches of hot, hot kustom kar klawing at the track. With real paws, yet. Put this tiger in your pack and have a ball. WACKIE WOODIE'S the prrrrrfect surf buggy. Nine inches of a krazy kombo of wide racing slicks, wood-spoke skinnies, "chrome" exhausts, orange-crate body, and more. Go Krazy Kustom. \$2.00 a kit. Extra . . . Official 7" Kat Decal included in every kit.

Every Part Fits In AMT Kits • AMT CORPORATION, BOX 131, TROY, MICHIGAN





**CONDUCTED BY THE MILL-MASTERS SAFETY CLUB, BERWYN, ILLINOIS**

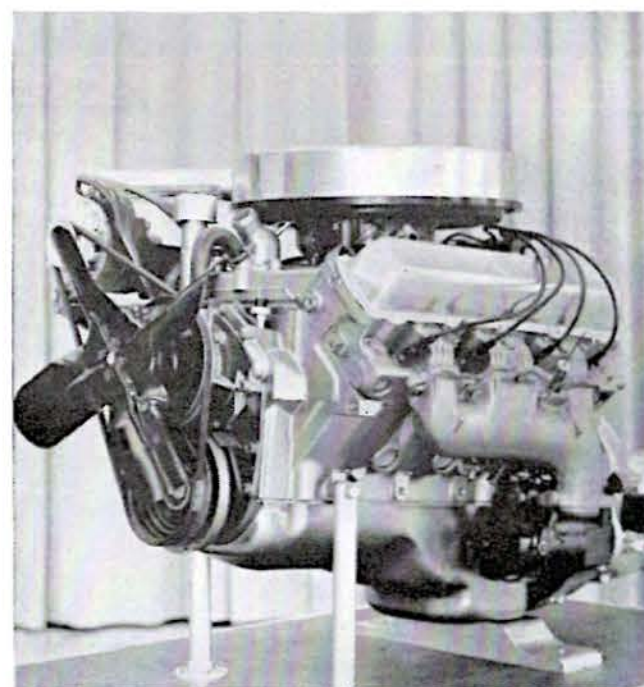
"Man, this is the way to live. Cooling it in a new iron in the land of the auto!" That was the comment of one crew member as we headed back toward Detroit. We, the four lucky guys from the Mill-Masters Safety Club of Berwyn, Illinois, had just completed a really exciting day. A couple of weeks earlier, we'd received a letter from Tex Smith in Los Angeles asking if our club would like to participate in a special motor city road test. He said we'd been selected by the Car Craft staff and could send along four members for the operation. Well, the decision as to what four members would go took some doing.

We flew over to Detroit the night before the big day. Tex called with the news that we'd been assigned a real dandy—the new Oldsmobile 4-4-2. Next day he came by in a big 98



*These are the call letters for Olds' hottest new number. In short they mean 400 cubic inches, 4-barrel carb and dual exhausts. But the Mill-Masters Car Club road test crew have their own interpretation—"It just looks mean sittin' there—and when you stand on it..."*

Coordinated by LeRei Smith, ICCA Field Director



Above—Cliff Riley, operator of drag strip, classifies the 442 while club members go over it in thorough safety inspection. The car normally competes strong in B/Stock.

Far left—A Hurst shifting arm is used with manual transmissions, is within easy reach. Club would prefer tachometer be mounted in or on top of dash, not on console. 4-speed trans option offers ratios of: 2.20 in 1st; 1.64 in 2nd; long 1.28 in 3rd.

Left—Heart of new Oldsmobile performance image is powerful 400 cubic inch ohv. Basically just a 425 c.i. mill with a smaller bore, the engine features forged steel cranks and rods, high capacity fuel pump and special rocker arm guides and rocker studs. Note that the block has been redesigned to eliminate bulky cast iron water pump housing and transfer. In stock form, the engine delivers 345 horsepower.

Right—With heavy-duty suspension installed, the 442 handles exceptionally well, especially on a loose surface. Car would roll to a firm position on hard corners and stay there. 20 to 1 power steering ratio was quick enough to handle nearly all situations. With the rally strip in place, 442 begins to suggest performance while parked. Simulated air scoop just ahead of rear wheels, twin exhaust and wire spoke wheel covers are part of special 442 insignia.



sedan to take us to the test area, which turned out to be the excellent new drag strip at Milan, Michigan. On the trip out, we got a chance behind the wheel of the big car and guess what? It is sure enough a luxury class vehicle. But, frankly, the soft detached sort of ride these big machines give isn't exactly the kind of thing we really dig. We got that a little later.

Cliff Riley's quarter-mile of velvet smooth asphalt is located in the little town of Milan, just south of Ann Arbor. A very picturesque place, with lots of green grass and trees. A tornado had passed the area the morning before, but nothing was harmed at the strip. By the time we arrived, Cliff had the clocks all set up and everything waiting.

Our car arrived from Oldsmobile shortly after we got there. And it was a beauty; sort of cream-colored (actually stronger to the yellow than anything) with a wild competition (called Rally by those folks) stripe over the hood and top. Man, you'll never know how eager you can get to drive a car like that. It just looks mean sittin' there!



Tex Smith, center, discusses testing procedures with members of the Mill Masters of Berwyn, Ill. ICCA club used spacious facilities of the Milan Dragway just south of Ann Arbor, Mich., for test of Olds' hottest number.

Tex gave us a briefing on our schedule and a listing of all the things we were to do for a complete test. We were only going to have the car for the day, so lots of work had to be packed into so many short hours. Before anything else, and while the photographs were being taken, we checked out the important specs on our 4-4-2 hardtop. This is what we found.

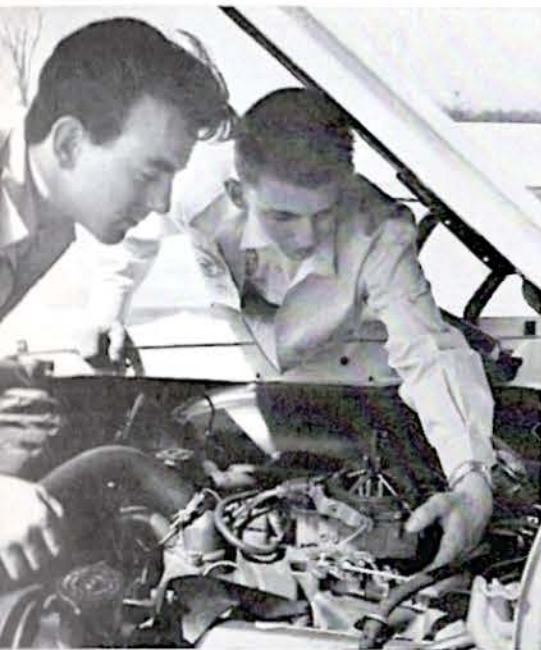
**CHASSIS**

The '65 4-4-2 has a lot of really new things going for it. For instance, it has a totally reinforced frame of the perimeter design, very stiff and very effective. The shock absorber control rate has been modified extensively, especially in the low and very high frequency ranges. Special stabilizer bars have been added at the front (.937-inch) and rear (.875-inch) for better roll control; the idea of a rear stabilizer seemed most practical and certainly proved its worth.

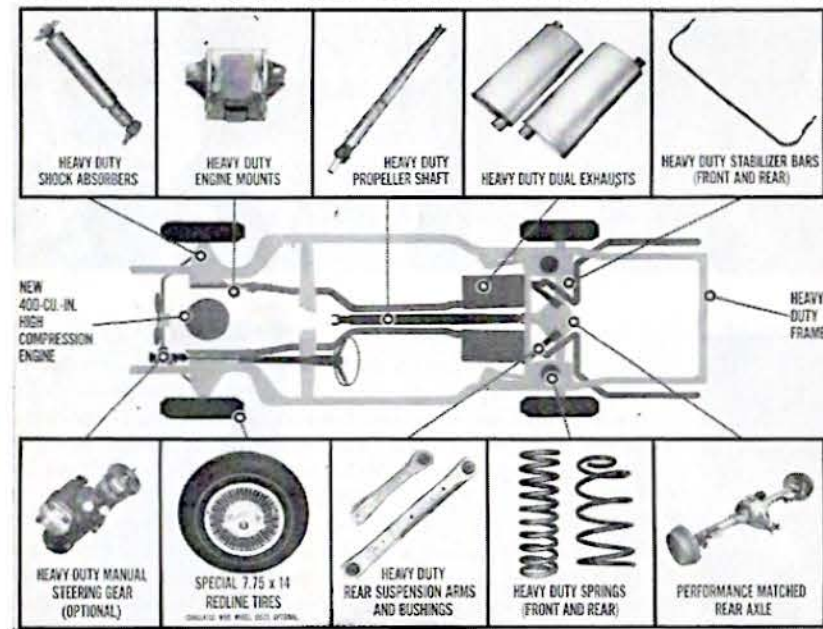
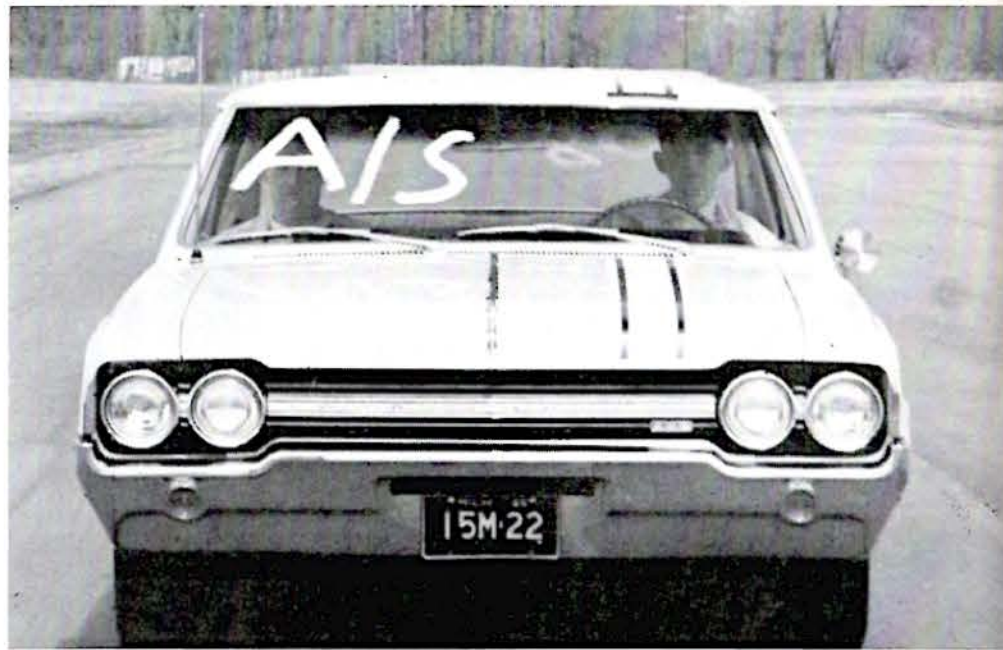
The coil spring rates have been changed considerably, approximately 50 percent greater, to produce a very stable—yet comfortable—ride. You really begin to notice the better springs when you have to get on the binders hard. Almost no nose dive.

The already proven heavy duty rear end units have a rather sensible "twin triangle" locator system. In this arrangement, there are two lower stamped steel control arms that run straight forward from the axle to the frame. On the top side, two shorted arms run from points on the gear

(continued on following page)



Above left—The boys get to the heart of things while checking out new Rochester 4GC carburetor. They found that carb has been redesigned with horizontal primary main metering jets to eliminate fuel washing away from jets during hard acceleration. Primary barrels are 1.56, secondaries are 1.69. Above right—Length of the Milan Dragway was put to good use in braking tests, where car reacted favorably to repeated stopping from high speeds. Excessive nose-dive is eliminated through use of heavy-duty springs and shocks. Right—Riley punches the button to get Chrondek lights and Olds 442 off the line. Club didn't have chance to drive a fully set-up dragging 442, but typical West Coast times are just under 110 mph in the very low 13-second area.



(continued) 4-4-2

housing at about a 45 degree angle outward to the frame. New rubber bushings have been used in these control arm ends to produce a more positive control of axle wind-up and wander. With such a set-up there is definitely no danger of the rear end moving out of its place.

A stronger propeller shaft has been included with the '65 package, assembled in such a way (when mated to the differential) that the residual unbalances in the shaft and companion flange offset each other.

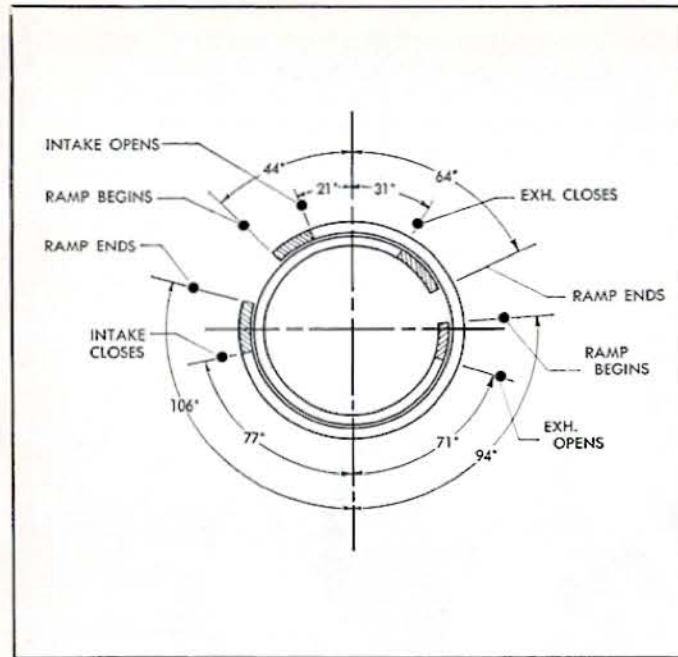
#### STEERING & TIRES

Our particular car was equipped with power steering, which has a ratio of 17.5 to 1. Manual steering ratio is 24 to 1 stock, with a 20 to 1 option available.

The 4-4-2 comes stock with red streak premium nylon tires for sustained high speed driving and are mounted on wider (1-inch) wheels. The tires are tested for 100 miles at 120 mph (70 degrees F) to make sure they are suitable for the type of use the average 4-4-2 buyer might dictate.

#### TRANSMISSION

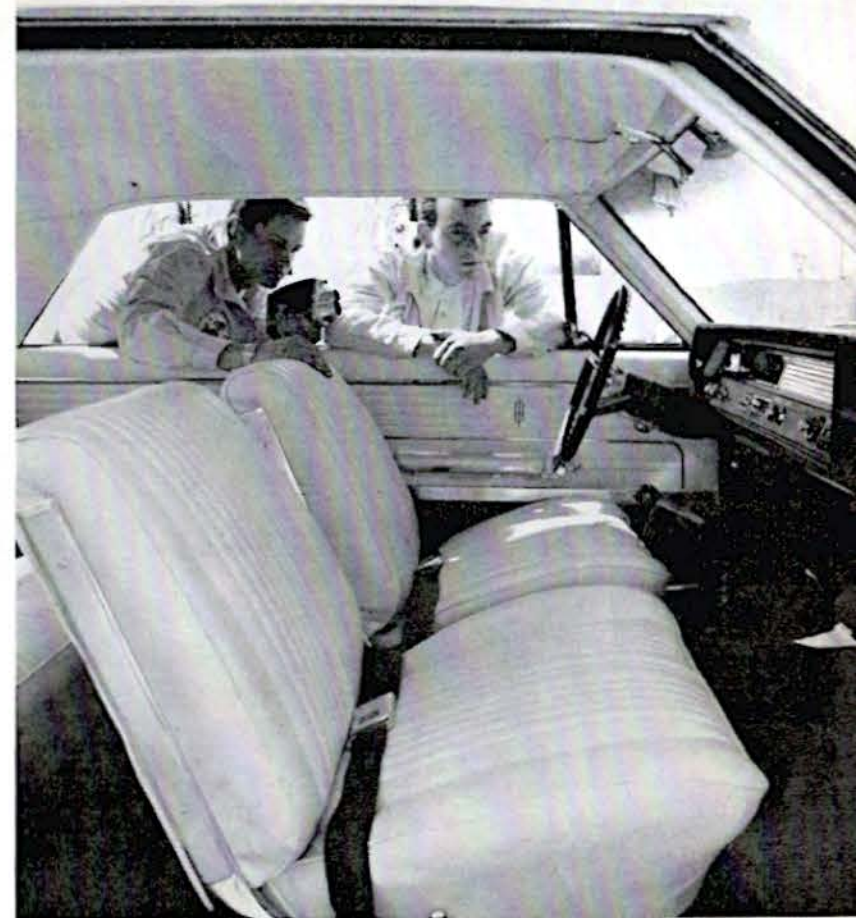
There are several transmissions available in this car, basically grouped as full synchromesh three-or four-speed



Above—Valve timing chart of the 400 c.i. 442 engines illustrates why the ohv runs so well throughout its power range. Intake duration of 278 degrees is just 4 less than exhaust, total opening overlap is 52 degrees.

Right—A Grecian simplicity is keynote of 442 interior. Vinyl upholstery is available in number of colors, a tilt-steering wheel is also special order. Seating is ample for average person, tall people may have some knee-room trouble in hardtop back seat.

Below—Air filter has enlarged intake for easier breathing, power steering pump support bracket must be removed for valve adjustments. There are a number of vital small improvements that can be made to the engine to bring it up to blueprint specifications. The Mill Masters point out great flexibility and future of this powerplant.



adjusting type, the shoes contact centrifugally cast iron drums. Lining area is 155.6 inches, based on 9.5-inch drums.

#### REAR END

There are several different rear axle ratios available. In stock form, the 4-4-2 is delivered with a 3.55:1 ratio for the manual transmissions, and 3.23:1 for the automatic. In addition, there are three options: 3.90 to 1, 4.11 to 1, and

#### INTERIOR

Bucket or bench seats are available with or without 4-way adjustments. Either vinyl or cloth trim is used, depending upon the body style ordered. A special console is an option, and mounts a tachometer just below the dash. A tilt-wheel steering wheel can be ordered for finite adjustment, if

#### ENGINES

This is where the 4-4-2 comes on in '65. 400 cubic inches, four-barrel carburetion and dual exhausts. Because the 4-4-2 is on the A-series body, the 400-inch limit was set by Olds top brass who felt the combination best suited for the purpose. (Of an all around street machine, that is.) Essentially the bigger 425 incher that sort of sneaked in to the Olds line-up last year, the 4-4-2 engine has a 4-inch bore and 3.975 stroke.

A hydraulic camshaft is fitted, pumping 2-inch intake and 1.625 exhaust valves. There is 278 degrees intake, and 282 degrees exhaust overlap, with the lift strong at .431-inch. The result is a very smooth engine, with lots of bottom end and a long winded top.

The compression ratio of 10.25 to 1 is a healthy reminder to use premium gasoline. All totalled, these things help the V8 pump out 345 h.p. at 4800 rpm, with 440 lb/ft torque at 3200 rpm. This all amounts to a horsepower/weight factor of 10.06 for the Holiday coupe, 10.00 for the sports coupe, 10.36 for the convertible, and 9.85 for the club coupe.

(continued on page 78)



and JetAway. The 3-speed trans has ratios of 2.42 in 1st, 1.61 in 2nd, and 2.33 in reverse. The 4-speed lists a 2.20 1st, 1.64 2nd, 1.28 3rd, and 2.27 reverse.

The automatic transmission has 1.76 in low, 1 to 1 in high and 1.76 in reverse. The engineers decided to retain the two-speed auto for this car, including the torque converter, since it seems the best all around unit.

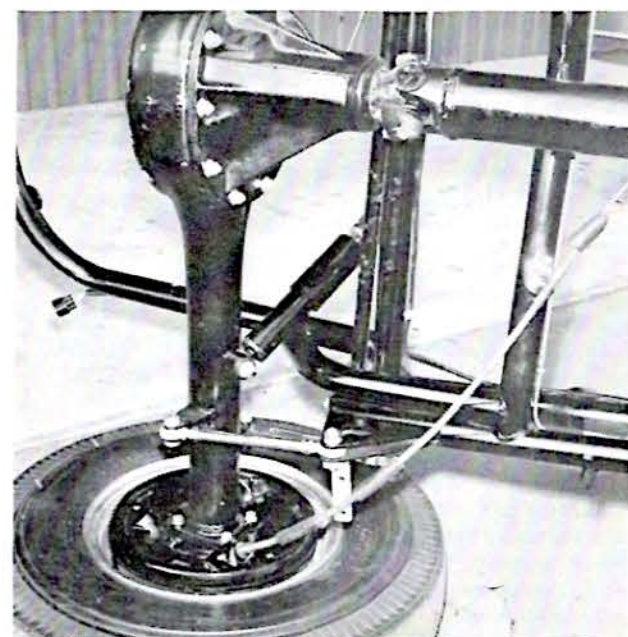
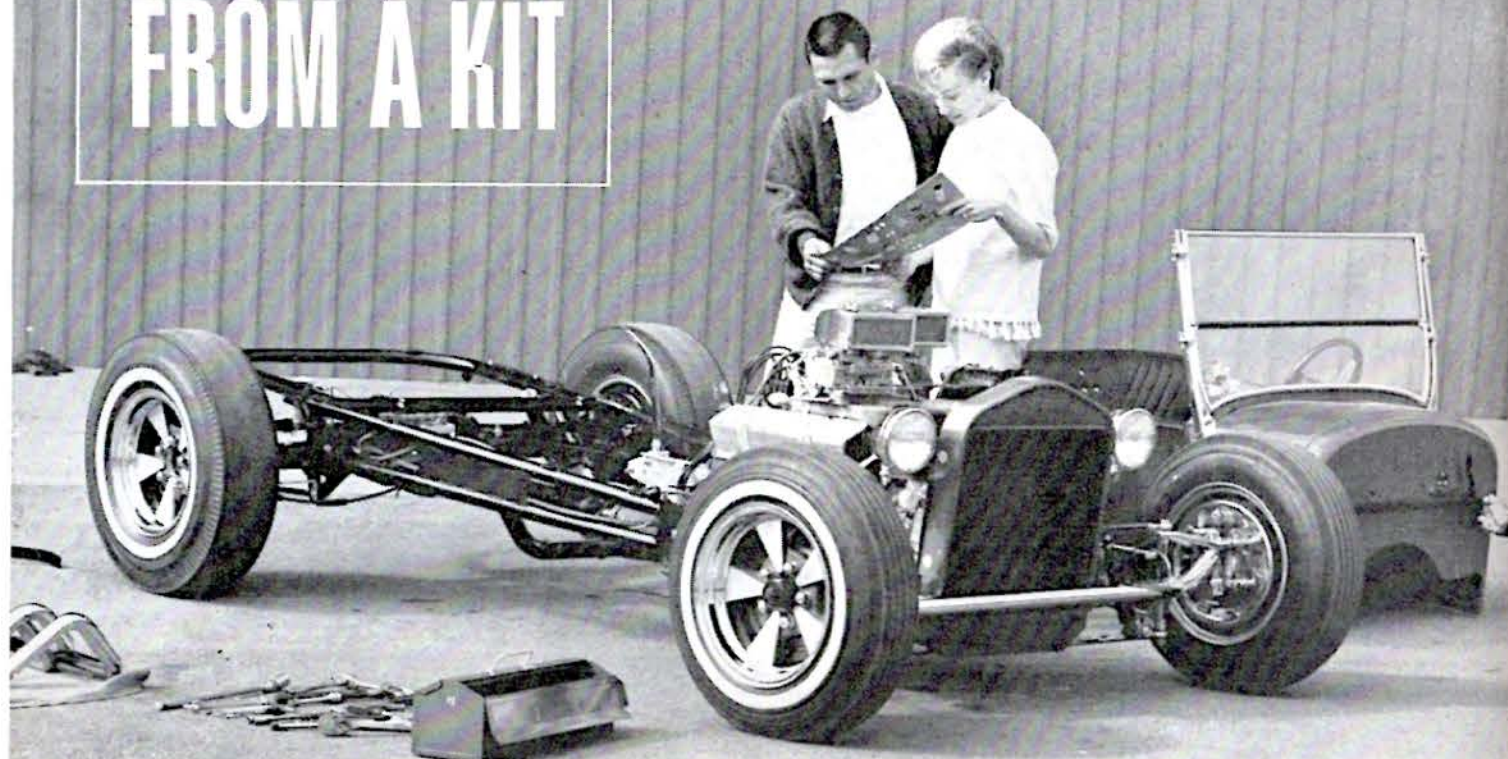
A Hurst floor shift mechanism is used, which should satisfy all the purists and impress all the bubble gummers.

#### BRAKES

Unlike so many counterparts, Olds has elected to stay with the duo-servo Bendix brakes on this car. Of the self-

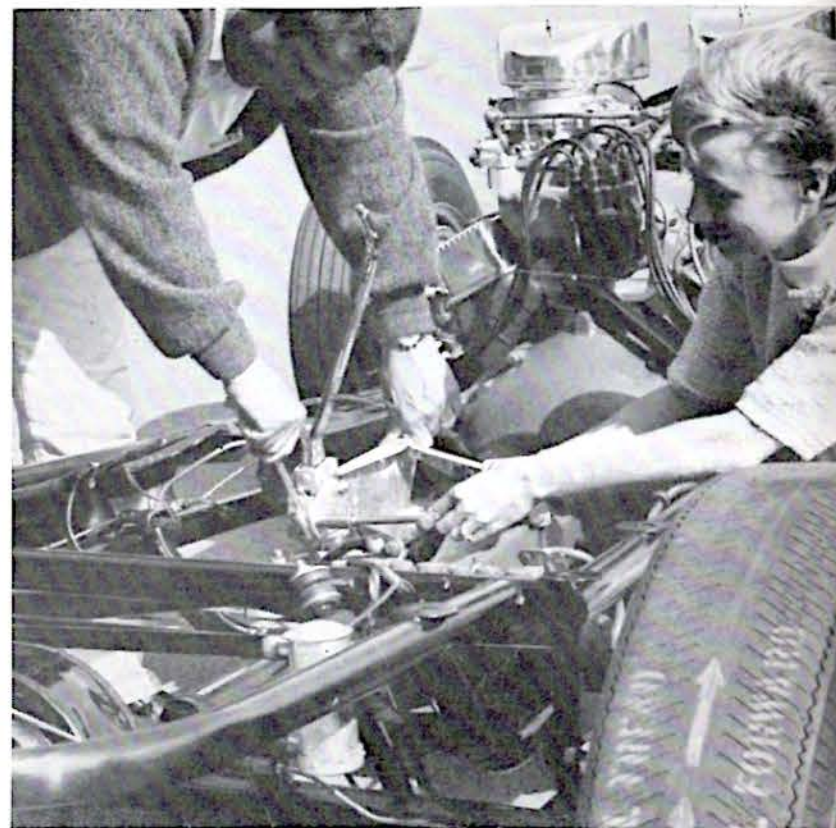
# ROADSTER FROM A KIT

When a race driver like Bill Kraus selects a rod for street transportation, he has definite ideas on what it should be. Dragmaster was able to meet his demands—in fact, you could say his car was tailored to a "T."



Streetster suspension features transverse mounted torsion bars made of 4340 steel, 7/8-inch diameter. Torsion bar trails to '57 Chevy rear end, with lower trailing arm used to stabilize rear end. Diameter of torsion bar determines final ride.

Right — Jeanie helps Billy bolt on the specially reworked Hurst shifting mechanism. Because of the tight quarters inherent with a roadster, shifter was moved up and toward center of the stock 3-speed Chevrolet synchromesh transmission.



ALMOST EVERYONE IS a hot rodder. The corner grocery clerk, the druggist, the doctor, the local mechanic. And especially the race car driver. Billy Krause of Torrance, California, is a race car driver of big reputation. Billy is also one very enthusiastic hot rodder. So much so, in fact, that he recently had the Dragmaster Company build him a very special little "T" for street use. And a wild little machine it is, too, with torsion bar suspension, Chevy engine and... but I'm getting ahead of the story.

The whole thing really started back in the early 1950's. Krause was attending high school in Southern California and making it at the drags at the then-new Santa Ana drag strip. Competing with a stroked flathead '41 Ford convertible, he won his share of quarter-mile glory. But he was interested in bigger things, especially oval and road racing cars. However, being underage kept him from successfully racing in these two aspects of the professional ladder. So, with typical hot rodder finesse, Billy built and raced a 3/4 midget.

He first cropped up as a driver-to-watch at a road race in 1956, at the wheel of his own D-type Jaguar. Since that time, it has been uphill all the way, with competition in all sorts of vehicles. Still, road racing seemed to be a natural habitat.

In 1960 and '61, Krause competed at the Pike's Peak hillclimb with his personal D Jag, finishing in 2nd place with a virtually stock Chevrolet powerplant. Just before the '61 race, Bill arrived in

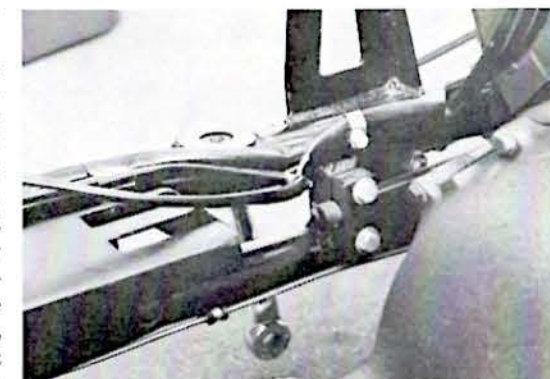
Colorado Springs with a 3/8 stroker Chevy under the Jag hood. As soon as he qualified for the hill, off down the road he went to the Continental Divide Raceways for a weekend of sporty car racing. While on the twisty road circuit, the crankshaft finally let go, leaving Billy Krause 1500 miles from home and qualified to race in two distinctly different kinds of races.

The local Colorado Springs Chevrolet dealer just happened to have a complete stock 283 Chevy short block in the store room, and — you guessed it. Billy bought the stocker, bolted on a Duntov cam, some of the outside goodies from his D Jag Chevy, and went racing. After these events, the engine rested in relative obscurity in the shadows of the Krause garage. Billy went to bigger and better things, including a stint at the wheel of Mickey Thompson's Indianapolis racers, and running team Lotus'.

But you can't keep a good engine down. While on location in Death Valley filming action scenes for "The Lively Set," Krause met Jim Nelson of Dragmaster. Since both have a natural affinity for fine mechanical machines, a friendship was inevitable. And so was the eventual conversation about the new Dragmaster "Streetster" street roadster. The more Nelson talked, the more enthused Krause became. So much so, in fact, Krause couldn't get the idea out of his mind. The final straw came at the ensuing Indy 500. One of the crew members of Billy's M/T racer was James Nelson, drag racer.



After taking delivery of the Dragmaster Streetster chassis, Billy bolted together the front and rear end components and got the thing on wheels before installing the engine. Wife Jeanie helps when needed.



Dragmaster street roadster frame uses torsion bar suspension, with rear mount for bar in normal engine bell housing area. Special complete wiring is available, as is paint, upholstery, chrome, etc.

It was just too much. Besides, Billy's pretty wife Jeanie loved the idea of a grocery hauling roadster. The die was cast. It has been just one year since that fateful decision, and the family Krause is now well ensconced in its very own Model T.

At the outset of construction, Billy and Jim agreed that wherever possible, absolutely stock Chevrolet items would be used. This makes availability of parts much easier, and simplifies periodic maintenance. Billy liked the basic short-Streetster chassis (the rear wheel is located just behind the door area, ala drag roadsters), and he wanted a pick-up to do double duty at his new Honda motorcycle dealership. He already had an engine, albeit dusty, tucked away in the garage.

So work started around the engine. The Duntov cam was accompanied with a new Mickey Thompson dual-quad ram manifold and valve covers, a Weber flywheel, and a couple of Carter AFB carbs. The engine was not hopped up to the Nth degree, as the finished car would weigh a little over 1500 pounds.

A stock 3-speed Chevrolet transmission was obtained, and fitted with Hurst

(continued on following page)



With everything on the chassis in place, Kellison fiberglass body was dropped in position. S-W gauged dash and Simca emergency brake handle, steering installed.

Left — Krause bolts up light duty Monroe shocks, since total car weight is below 1700 pounds. Note body mounting pads atop tubing frame rails, to left of the shock.

JULY 1965

## ROADSTER FROM A KIT

(continued)

shifting linkage. A '57 Chevy rear-end, holding 3.70-1 gear, was set underneath the tubing chassis and connected to the torsion bars.

A tubular front axle was fabricated in the Carlsbad, California, Dragmaster shops, and '52 Chevrolet spindles adapted. By using the Stovebolt spindles, which fit with very little effort and machining, late model Chevy Bendix brakes could also be used at the front. It's an inexpensive operation producing exceptional results.

The front end is also torsion-bar sprung, and Gabriel shocks are bolted into place at all four corners. Because of the very light weight of the Dragmaster roadsters, normal automotive shocks have proven far too stiff. Solution: Gabriel items from Maytag washing machines.

One of the Dragmaster dragster Ross steering gearboxes was bolted to the frame via a bracket just ahead of the firewall. Again, due to the light weight of the car, steering is extremely light and positive. Much like a multi-thousand dollar sports car.

To get the package on the ground, Mickey Thompson wheels (along with M/T cheater slicks at the rear) were selected.

Keeping with the theme of a modern automobile, Dragmaster fits all their cars with late-model radiators. This particular vehicle has a Falcon radiator, modified with an extra row of tubes (giving 3 rows instead of 2). Cooling has proved ultra-efficient, even without a fan.

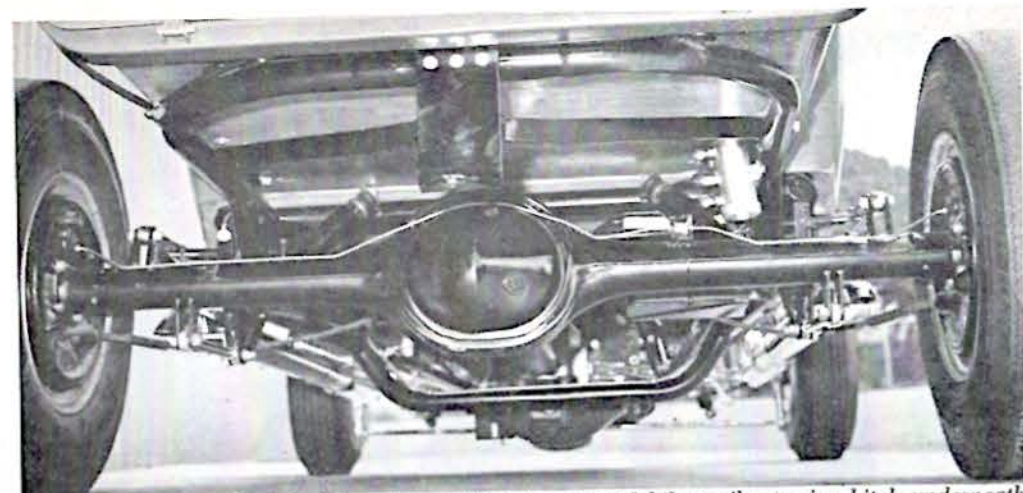
Billy had indicated he would like to have a '27 'T' bucket in front of the pickup bed. Kellison had just the item, including a little bonus extra — opening doors. However, the fiberglass pickup bed was of the popular "fad car" type, far too short to be really functional. Dragmaster lengthened the bed by taking two beds and making one.

With special plywood flooring glassed to the body, it was set in place on the rails. Tom McMullen was called upon to handle the super neat job of wiring, and then the nearly-finished car was sent off to the paint shop. Billy liked yellow and Jeanie like red, so they compromised. It's red. Ford Rangoon Red, to be exact.

An interior of black Naugahyde was stitched up by Arrow Top Shop in Oceanside, and a black tonneau slipped on the bed. Rounding out the major equipment are small Dietz headlights, turn signals (from one of those other makes of motorcycles!), Stewart-War-

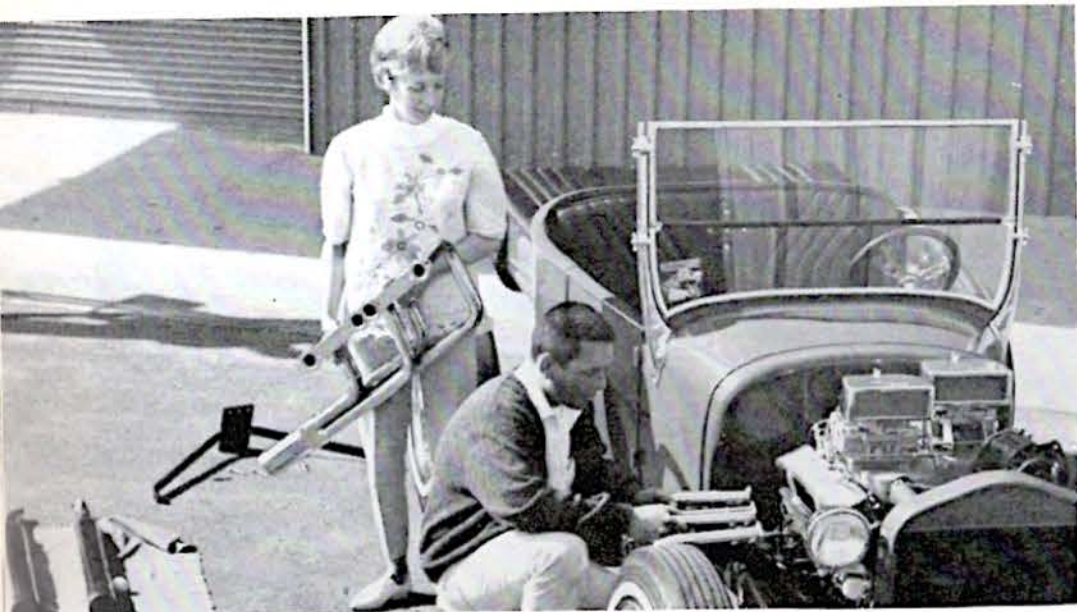
ner gauges, and the nuttiest little removable tow bar for motorcycle trailers.

Super neat in every detail, the 'T' is living, fire-breathing proof that superior work can and should be the criterion for even the most inexpensive of cars. Attention to final use and detailed planning have been combined by Dragmaster to produce a most pleasant roadster for a racer.

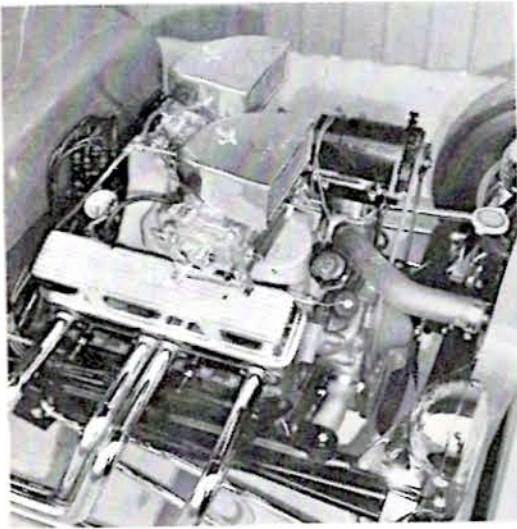


Lengthened glass pickup bed has plywood flooring, special bike trailer towing hitch underneath. The mild tubing frame is 1 3/4-inch diameter by .038-inch thick. About 60 feet is used in making the frame, with the final unit selling for \$86. Just about every combination of parts is available, from individual pieces to complete cars, such as this beauty just for a racer.

Dode Martin checks over the finished job as Billy bolts on the remaining header. It takes about one weekend for two people to get car running.



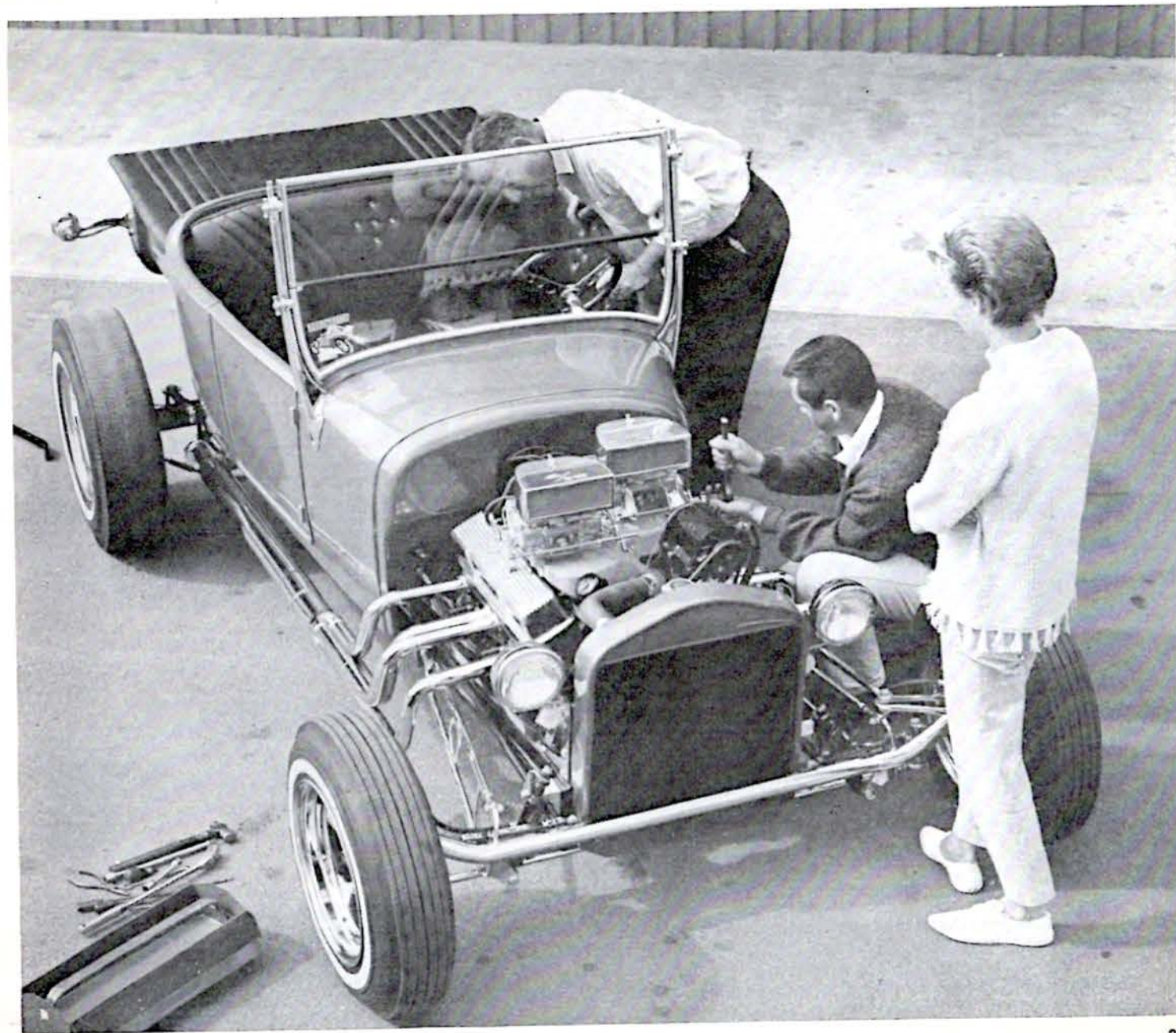
Above—Dode Martin and Jim Nelson built up special tubing headers, outside type, with insert plug muffler extensions. The entire car was constructed and tested before being taken apart, painted, and delivered to Krause. Billy liked yellow, Jeanie liked red. Guess what final color is.



Left — The 283 Chevrolet engine uses a Duntor cam and M/T outside accessories all producing torque for a Weber flywheel. Dragmaster has local shop, make up special radiators, so the fan isn't really needed. Check the engine mounting.



Below — A fibreglassed wooden dash helps highlight the black Naugahyde and carpet interior. Special opening doors are all wood reinforced, body is channeled over the frame 3 inches. Headlamp dimmer switch is to left of shifter, all other electrical controls are on plate under dash.



# THE KIDS PUT 'EM DOWN!

## START Mobil Economy Run



**BY LEROI TEX SMITH** □ They really showed 'em how! After 3266.1 miles, some young drivers representing the automotive enthusiasts of the country, posted better miles per gallon averages than the "professional" Mobil Economy Run drivers. So what's Car Craft doing on the Economy Run? That's a question I asked myself when Dick Day first mentioned the idea. As so many dyed-in-the-wool hot rodders, I've often watched the progress of the annual Mobil Economy Run with a rather skeptical eye. After all, they probably have the cars so fixed up that the results are far from realistic, and certainly, the drivers feather-foot the thing so much that any resemblance to actual driving conditions is strictly coincidental. Man, was I wrong on that point. But more of that later. What really began to whet my enthusiasm for this year's run was the inclusion of several teen-age teams in the competition. Especially since they were all connected with the car sport in some way or another. In fact, after checking the situation out,

it began to dawn on me that here really was something exciting to the hot rod sport. We've long been proud of the accomplishments of our contemporaries in all-out speed performances. And here, for a change, were several young people getting ready to prove the sport's prowess in another sort of performance—all-out economy. The line-up looked pretty impressive.

From Detroit, Michigan, came 18-year-old Ned Aberly. A student at Oak Park High School, Ned was to drive a Comet 404 V8 in class D. He had been chosen by Mercury as their representative after he had won the L-M sponsored National Safe Driving Road-E-O. Certainly, such a feat is no easy thing, but to add icing to the cake, Ned is also the Michigan Teen-Age Safe Driving Champion, as crowned by Union Carbide Company. Part of his awards for winning the national contest was a Comet V8, so he was no stranger to the type of car he would be driving.

Dodge entered two teen-age teams this year. Marty Payne, a 17-year-old from Santa Monica, Calif., High School was at

FROM LOS ANGELES TO NEW YORK, THIS YEAR'S MOBIL ECONOMY RUN WAS AN HONEST TEST OF CAR AND DRIVER OVER 3000 GRUPELLING MILES. THE TEENAGERS WHO WERE ENTERED PROVED TO BE REAL "FEATHER-FOOTS" BY COMING UP WITH THE BEST GAS MILEAGE!

the helm of a Dart 170 6-cylinder machine. Marty had been selected from a group of 5 contenders by his school officials. Majoring in journalism, he was no stranger to the automobile or to drag racing. But economy driving had not been of major importance before.

The other Dodge was driven by Dareth Rich, no stranger to Car Craft readers. Dareth has been associated with National Dragster, NHRA and International Car Club Association during the short span of 19 years and is regarded as the personality pro-tem of the hot rod sport. An avid racing fan, Dareth was chosen by Dodge to pilot their Dart G.T. V8 in the special Sports class.

Although not officially listed as first drivers, the remaining two teens were given the awesome job of co-driver and navigator. Jean Fitzgerald, 19-year-old student at Valley State College in Northridge, Calif., was really a veteran of the run.

A driver for the Chevy Teen Team last year, Jean had decided to concentrate on charting the course this year. She remained with Chevy, though, riding in a 6-cylinder Malibu, with Sherlee Madison.

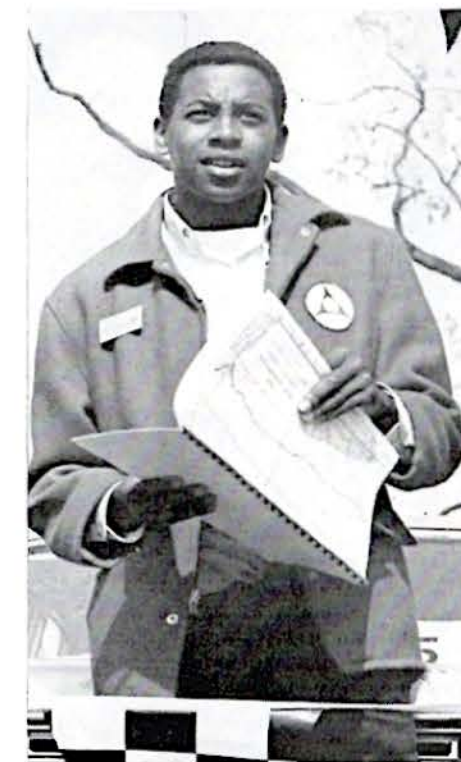
JoJo Shutty of Berkley High School near Detroit, signed on to plot the route for Ned Aberly. Although just 17, JoJo was used to traveling a lot since she had won the Miss Teen Detroit contest and was a finalist in the Miss Teen USA pageant. She is one of the official Lincoln-Mercury Youth Safety Spokesmen, giving special automotive safety talks and demonstrations around the country. So, with a line-up like this, it was quickly apparent that win, lose, or draw, these participants would certainly uphold the tradition of hot rodding. They'd try their very best. I was in for further attitude rearranging

(continued on following page)

Opposite page — Start of '65 run was at new Mobil diagnosis facility in West Covina, California. High school band and cheer leaders were on hand to encourage contestants, official starter J. C. Agajanian has worked run every year.

Left — One of the most popular participants was Dareth Rich, 19 year old from Woodland Hills, Cal., even J. C. couldn't resist teenager's enthusiasm. Dareth finished 3rd in special Sports class with Dodge Dart GT at 20.5399.

Below left — Marta Retzlaff of Barstow, Calif., pushes her Buick LeSabre over torturous 10,000 ft. Wolf Creek Pass in Colorado. Sign posts behind car graphically illustrates why drivers must be alert at all times to avoid costly error.



Above left — Marty Payne, high school student from Santa Monica, Calif., drove Dodge 170 to 3rd place in Class A. His 23.5016 mpg was excellent for 1st try. Teenagers averaged 21.2101 mpg overall, adults averaged 20.2896.

Above right — Jean Fitzgerald was a driver for Chevy Teen Team last year, came back as navigator in Chevella. Crews received next day's course at each day's end, drove an average of 11 hours every day. Temperatures from 89-31.

when I began pouring over run information prior to the start in West Covina (a community some 30 miles east of Los Angeles). The 1965 course was to be the longest ever attempted, traced over the most difficult route, and held to a blistering average speed of 51.45 mph. It was the mph average that gave the first indication of there being more to this pudding than I had realized. If you've done much long driving, you're well aware of the difficulty of maintaining such a high average. And I was in for many more pleasant surprises. A quick glance at the rules showed that all entries had to be stock, 1965 American cars, with seating for no less than four people. There were 9 classes, ranging from small engined compacts to luxury sedans. Of special note is that all competing cars were selected at random from dealer showrooms, factory assembly lines or warehouses by USAC officials. Incidentally, USAC handles all the run production under most rigid standards. Absolutely no "special" cars may be used. Power steering and brakes are required in the "bigger" classes and all cars must have automatic transmissions. The last requirement is based on the overwhelming majority of automatics on the road today. Virtually all standard equipment is required, and the tire air pressure is even maintained at exactly 4 pounds over manufacturer specs. Each car is given a break-in period of 1500 miles, during which time it is driven on paved roads with a USAC observer along. After the break-in, normal servicing is done, under USAC scrutiny, and then each car is fitted with a special sealed gas tank. An overall elapsed time between stops was set up, with penalties for violation. And, an official USAC observer rode in the car to make sure



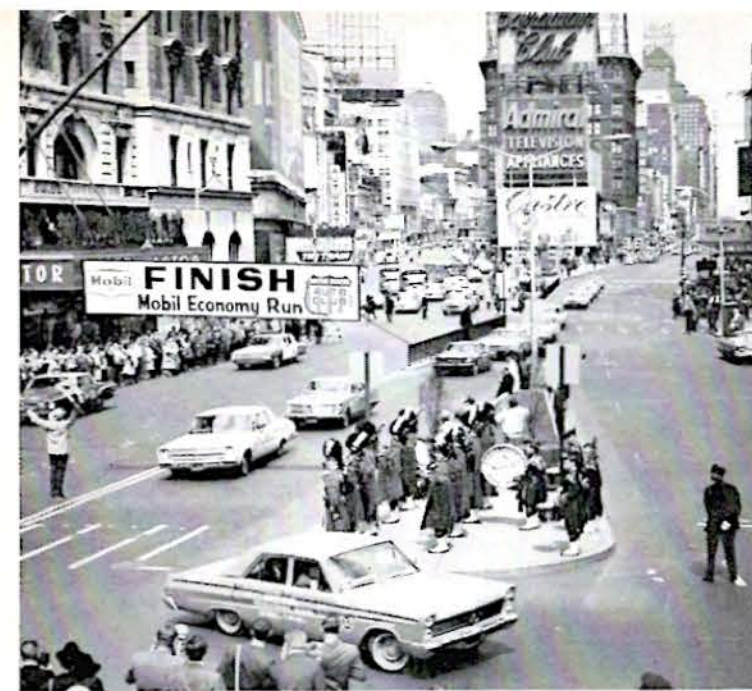
1965 course for Economy Run was longest in history (3000-plus miles), toughest (hills, desert, mountains, city, freeway), and fastest (over 50 mph average). Such a course honestly tests cars.

that all run rules were strictly adhered to. Including the one about no coasting down hills, etc.

All in all, it was readily apparent that this really was a test of gasoline mileage available to the average American car. The only determining factor was the driver.

All cars would be running under similar conditions, and since the 49 entries were to leave each start at 1 minute intervals, condition variations would be at the minimum. In the West, the road traveled through long stretches of desert, including the famous Navajo country of northern Arizona. Man, that stretch of pavement must surely be the longest drag strip in the world. Then up to the top of snow covered mountain passes at 10,000 feet plus with blizzards threatening.

From Pueblo, Colorado, the course became increasingly clogged with small prairie communities. Pleasant to drive through, but murder on gas mileage. Kansas, Missouri, and Illinois were mostly freeway miles, but just out of Chicago great bulging cumulus clouds finally opened up and spoiled what had been a sunny trip (sunny except for the portion through sunny California, when it rained all the way).



Above — Each car is equipped with specially constructed gasoline tank bolted in the trunk. USAC officials handle all fueling and pertinent control of cars start to finish.

Left — Finish of the run at Times Square in New York City was fitting climax to event. For the teenagers it was first visit to the big city, all were tired after grueling trip.

Tornado warnings were up, and driving became downright unhandy at times. Thunderstorms were everywhere. The first day out of Los Angeles, severe crosswinds had been something of a problem — at one point Dareth Rich slid off the road temporarily — but the rain posed the biggest threat to economy. During the H<sub>2</sub>O melee, Ole Olson became lost in his Imperial and consequently ran out of gas 16 miles from the finish point. This disqualified him from further competition.

The route skirted the southern edge of Lake Erie and crossed over into Canada at Niagara Falls before turning southwest for New York City. From Cleveland on, the sheer mass of town and people made featherfoot driving extremely difficult. And, of course, there was the exotic joy of trying to remain calm while groping the way through New York to the finish point at Times Square. Needless to say, cross words were often split between frustrated drivers and confused navigators.

And how did our guys fare along the way? These were the questions put to them during the finish banquet at the New York Hilton.

Car Craft: How much practice did you get before leaving L.A.?

Dareth: "Well, I guess you could say a whole year, since I own a Dart GT convertible anyway. Actually though, being very familiar with the car was a tremendous boost to morale. I really started practicing in earnest when I found out I was going to go on the run. I spent about 1 month just driving around the Southwest to places like Flagstaff, Arizona, and

Las Vegas, Nevada. I put a vacuum gauge on my own car so I could get an idea of what was really happening, even in L.A. traffic. You'd be surprised how educated your foot can become. It began to feel just like an extension of the engine."

Marty: "I didn't get much time to practice, really, because of school and all. I did manage to squeeze in a couple of days around Southern California, though. We couldn't use the run cars, naturally, so we used a similar model."

Jan: "Since I wasn't driving this year, I didn't have to worry too much about practice in the car. I did brush up on my math, though, working on time-distance problems, etc. The co-driver is really more of a navigator and takes over when the driver can't keep on." (Such a thing happened in St. Louis when Paula Murphy had to go to the hospital with a recurring back injury and her co-driver took over.)

JoJo: "We didn't have any practice at all, I mean Ned and I, before we left the starting point. It seemed pretty awful at first, you know, with all those really professional drivers around. I knew approximately what I had to do for Ned, such as keep him on the right course all the time and warn about upcoming road turns. And, of course, I had to make sure we weren't late at any of the stops."

Ned: "Like JoJo says, we didn't have any practice. I was lucky and own a Comet like the one I used

(continued on page 82)



Above—Most drivers found that freeways and tollways were extremely demanding of concentration, especially when keeping proper speed on long, open road. Stopping at toll gates was a new experience for most run drivers.



Above center — Fastest man on four wheels, hot rodder Art Arfons drove Pontiac team entry to 2nd place in rugged Class G. Art was quick to point out that milking a car for every possible mpg was harder than high speed runs.



Above right—Nope, it's not a photo from ages old run. This pre-War II Dodge was a winner in early Economy Run, came back to do yeoman duty in 1965 as one of the official Press vehicles. Its official mpg is listed as top secret!



CAR CRAFT



Far left — JoJo Shutty, a Miss Teen U.S.A. finalist this year, and Ned Aberly, winner of '65 TeenAge Road-E-O, represented Mercury in a Comet. Both teams were thrilled at chance to compete, Ned is an active drag racer in their native town of Detroit, Mich.

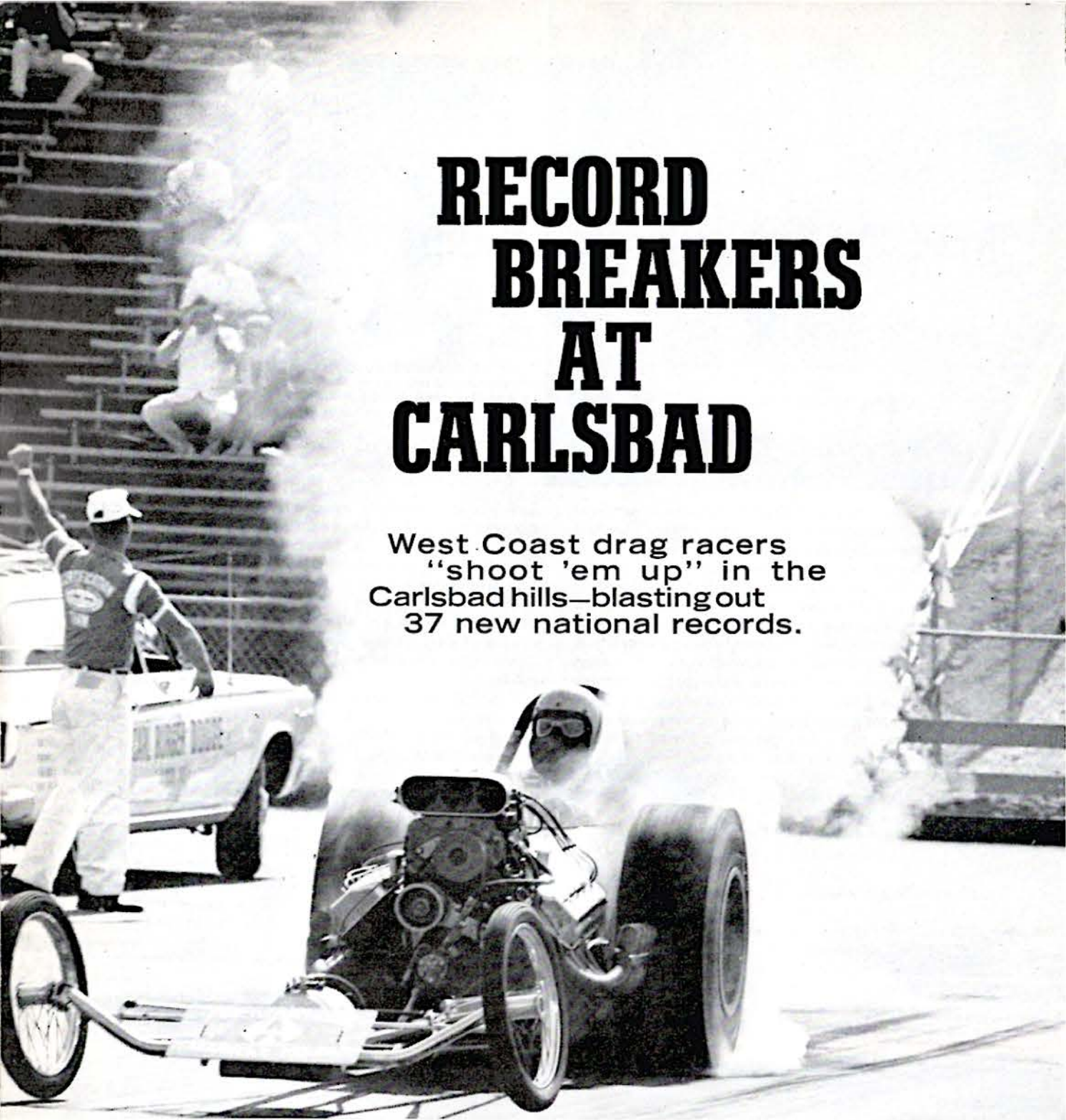
Center left — Car Craft's own Don Francisco was team manager of Pontiac's efforts, also drove a Tempest to 22.5433 mpg.

Left — All along route, enthusiastic spectators turned out to watch the caravan. In most communities, school was let-out so students could get a front row seat at the passing. All cars were started on run in show room condition, with normal run-in and tune-up. Average mpg was 20.3472.

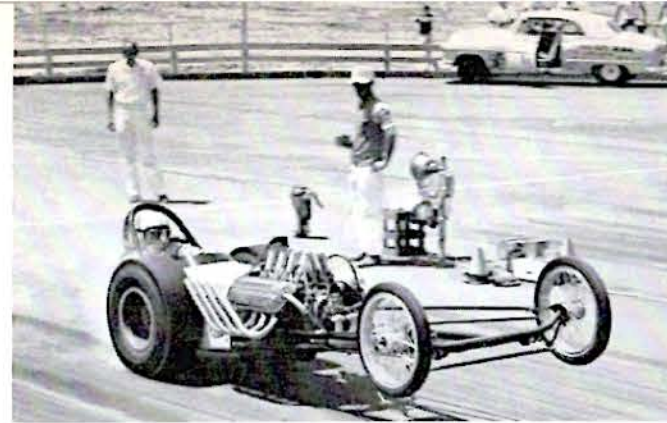


# RECORD BREAKERS AT CARLSBAD

West Coast drag racers  
"shoot 'em up" in the  
Carlsbad hills—blasting out  
37 new national records.



By Cec Draney □ The drag racing season is in full swing, now, and drivers throughout the country are engaged in quarter-mile tilts at special events, trying for class and eliminator victories which earn valuable points towards the National Hot Rod Association's World Points Championship. The Grand Opener event at Carlsbad, Calif., was one such championship meet, the first to be held in the nation's Southwest Division. It was typical in many respects of similar races held in the north, east, south and central areas of the United States. Local contenders battled hard for wins—and points—and every run had with it a story of sweat, tears, glory and defeat. But the meet was also an unusual one, for during the two-day foray a total of 37 national records were broken—virtually one-third of all the records in the NHRA book. Both ends of the AA-fuel dragster mark were smashed; Danny Ongais pushed the blown Chrysler-powered "Mangler" through the traps in 7.59 seconds for the e.t. record, while the Stellings-Tapia-Belond rig, also using



Getting both ends of the B-Fuel Dragster national record was this injected Chrysler rig owned by the team of Martinez and Uehara of Santa Clara, Calif. Rail hit 8.65 e.t., 179.28 mph.

Right — Winner of the Grand Opener's Competition Eliminator cup was the Davis & Ingram BB-Altered out of San Jose, Calif. Chevy powered Fiat holds current class record of 10.00 & 145.86.



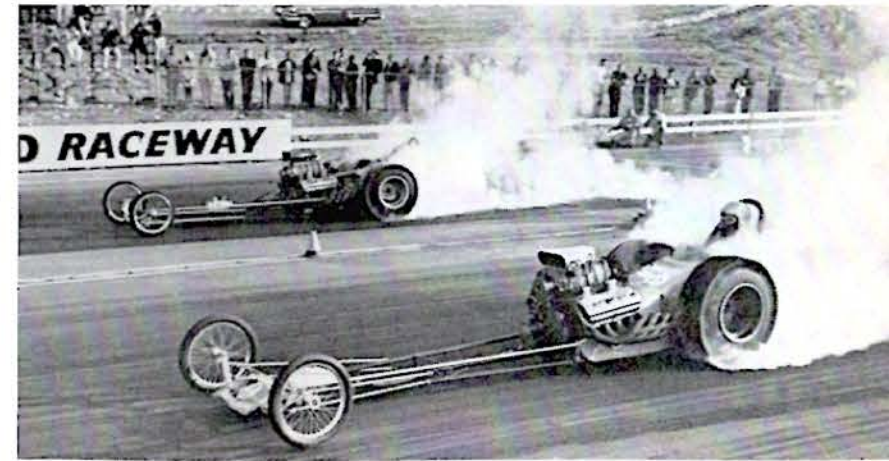
The Dutre & Dutre Corvette is the car to watch in B-Modified Production, this year. Driven by Ernie Dutre, the car began this season with a Street Eliminator victory at the '65 Winternationals at Pomona and set a new e.t. record of 11.98 at Carlsbad event.

Right — It was a woman driver who took control of the contention in S/SA class at the Carlsbad meet. Shirley Shahan, wife of H. L. Shahan (head mechanic for Plymouth A/FX driver Butch Leal), pushed her "Drag-On-Lady" plymouth to a class victory.



All the way over from El Paso, Texas, to run in the Carlsbad hills, came Don Ghareeb with his A/Sports Corvette, "Grey Ghost." Spirited Texan showed westerners the way, setting 12.56 e.t., 109.22 mph records.

Right — The runoff for Top Fuel Eliminator pitted Dan Ongais in the "Mangler" against Dick Lechien. Ongais, who had earlier set new national e.t. record of 7.59 seconds, cracked 7.55 at 207.36 mph on winning sprint.



Chrysler muscle, boosted the speed standard to 205.46 mph. New records were established in nearly every racing category, including 16 marks in the stock car ranks ranging from A/FX down through N/S classifications. Now, NHRA's records are not "pushovers," nor can an enterprising strip operator, hoping to gain popularity for his track, "beef up" the clocks or change their readings. Two sets of timers are necessary for these records and they are religiously guarded over by an NHRA Records Certification Team which also rides herd over such items as fuel check, engine tear-down, wind velocity checks, safety inspection, etc. So, when so many records are broken at a single event, it's truly amazing and reflects the driving determination of the sport's drivers and mechanics, as well as the ingenuity put forth by the speed equipment manufacturers who are constantly testing and changing their equipment in a never-ending quest for perfection. The Carlsbad meet was a gas and a fitting event to open what will probably prove to be drag racing's record season—in all categories.



## RECORD BUSTERS

(continued)

Ongais, Ronda — Familiar names set the pace for the season's runners



Above — Quickest AA/Stock entry at the Grand Opener was McCoy & Mills '64 Ford out of Fullerton, Calif. Driver Tom Safford posted new e.t. record, 12.33 secs.

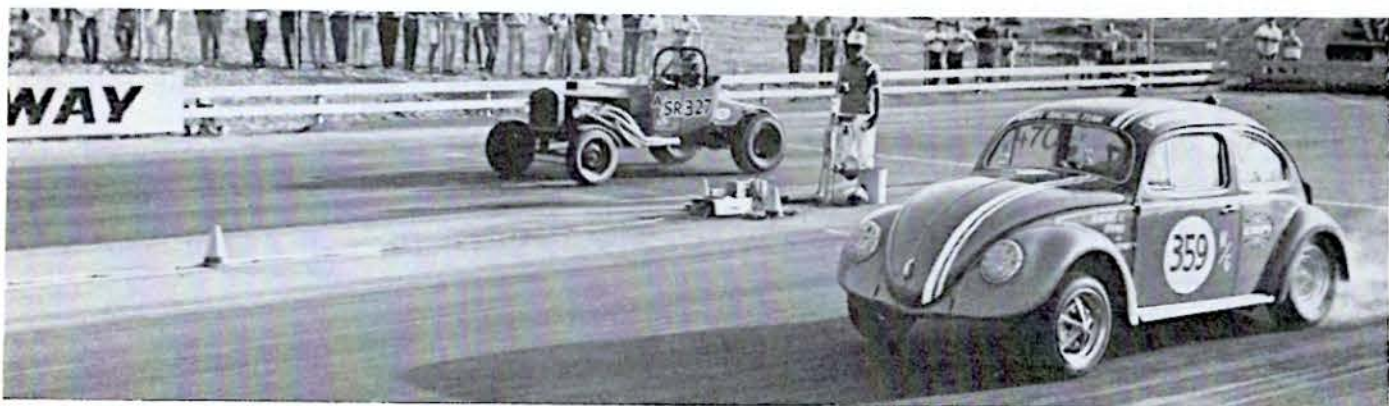
Left — Race official John Lorenzen (left) presents trophy to Bob Spears who drove Lafayette Ford entry to meet's Top Stock Eliminator honors, cranking 12.23 seconds.

Below — One of the fastest handlers in the business is Danny Ongais, Hawaiian-born handler of Broussard-Davis "Mangler" AA/FD. Dan is noted for coolness.

Photos by Eric Rickman



Gas Ronda, who won the 1964 NHRA World Points Championship, Stock category, in a Ford, this year looks on his way to another title in the Russ Davis Ford A/FX Mustang. Gas not only won a class trophy but cracked a new national record with a 10.87 e.t.



One of the meet's biggest crowd pleasers was this EMPI-equipped Volkswagen driven by Darrell Vittone. Running H/Gas class, the bug set a new e.t. record of 14.03 seconds; went on for Street Eliminator title, defeating Bill Looney's A/SR during this run.

# \$1399.83

## ROD

The finished product of Car Craft's "How To Build A Hot Rod" series is Ray Sisemore's beautiful little street roadster—built from scratch on a budget!



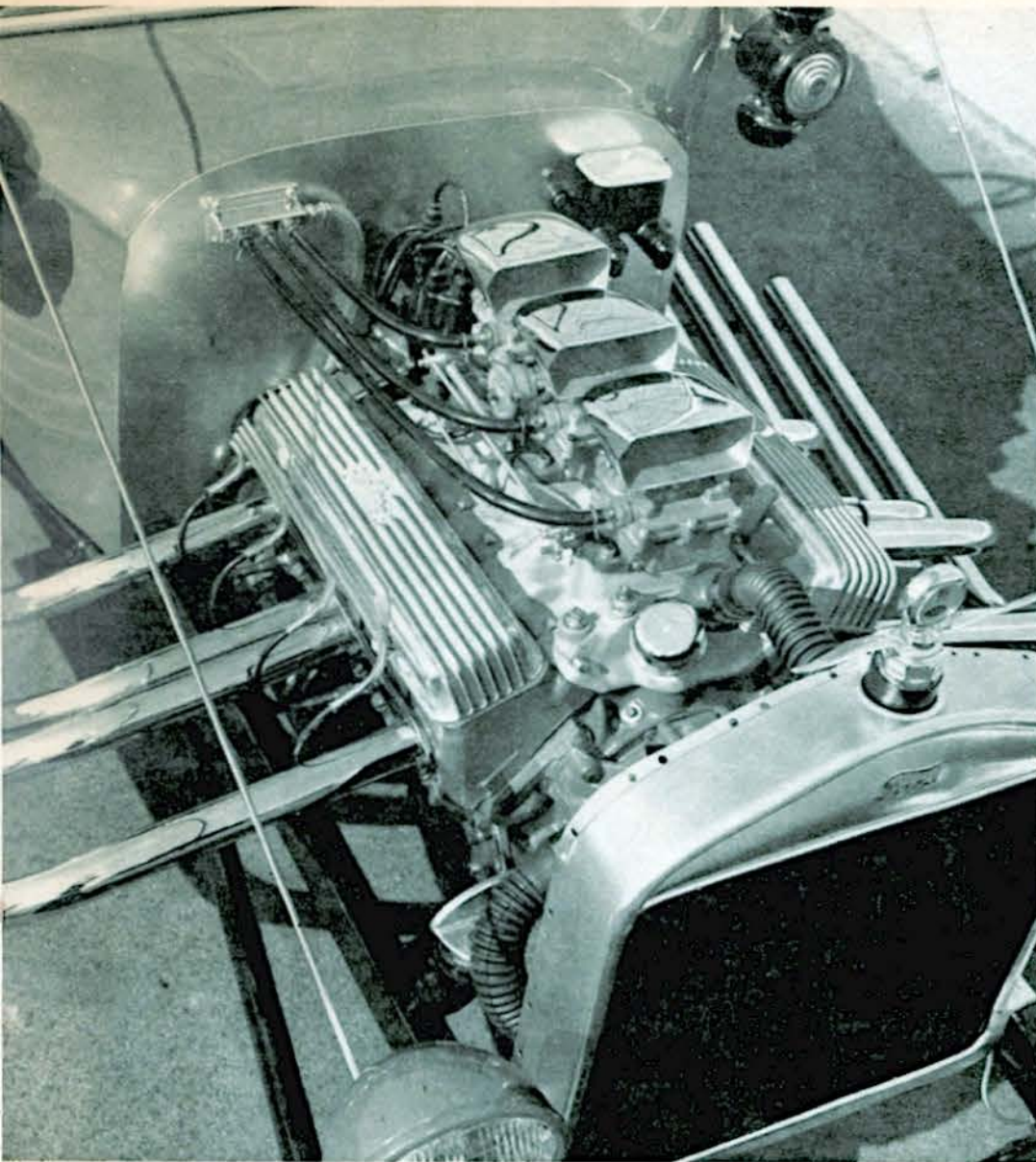
LOS ALAMITOS, CALIFORNIA

ANYONE WHO HAS ever built a hot rod, or been around someone who has, knows that it is easy to run up a price tag of \$3000 to \$4000 without much trouble. Ray Sisemore had never built a hot rod before but he was familiar with the cost that was usually in-

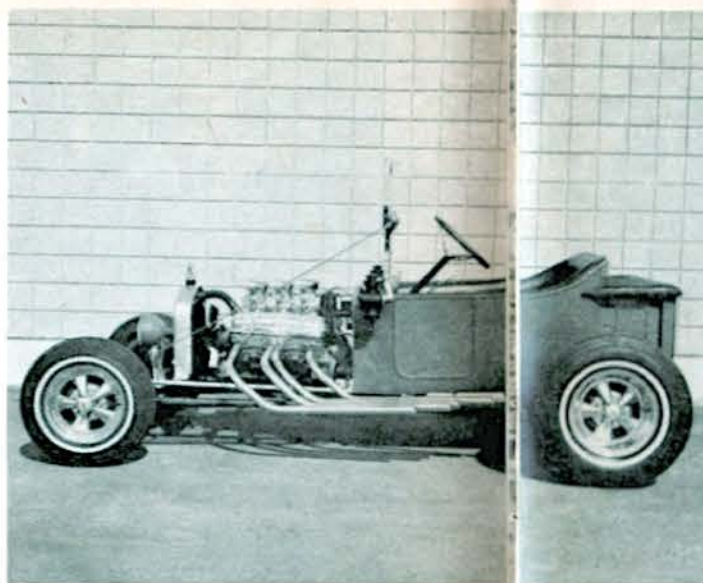
involved. However, he figured that a real nice street roadster could be built much cheaper if plans were well laid before starting and if most of the work was done by himself. He started his project by listing everything he could possibly think of that would be needed on the car

and then checking around to see what the approximate cost would be for the items. This way he was able to figure out in advance most of the problems that usually pop up during construction, and solve them in the easiest and most inexpensive way. Many times, cost of building a car goes up because of having to go back and change something that has already been done. As the roadster appears here, you will probably notice a few things that are not on the price list, such as custom wheels, engine goodies, etc. But these are all items that have been added to dress it up. The same basic car with stock items would still be a sharp looking, very practical, appealing means of transportation. ☻

CONTINUED



Photos by Pat Brodler



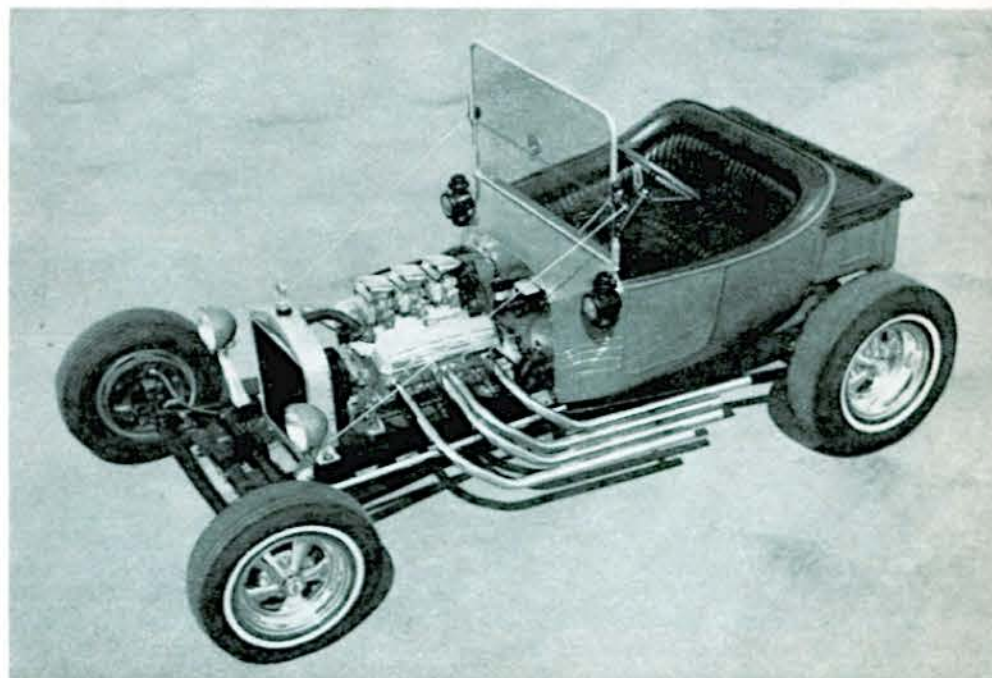
Custom frame is from U.S. Speed Sport; made from 1½x3x.120 rectangular steel tubing. Wheelbase is 98 inches. Transmission is a '39 Ford unit, hooked in through use of Cragar adaptor. The headers came from Douglass Mufflers; those sharp wheels are Cragars, aluminum spoked, steel rims, mounting set of Jaynor cheater slicks.

The interior is simple, functional and extra clean. One of the reasons Ray went to the U.S. Speed Sport fiberglass '23 "T" body was the fact that the instrument panel is molded right into the unit. An array of S-W gauges were set in; deep-dish, walnut rimmed steering wheel is from Ansen. Ray didn't trust himself to do the upholstery; turned the job over to Don's Trim Shop in Norwalk, Calif., where black Nauhahyde magic was performed. Considering the price, this is a very "sanitary" rod.

Ray's choice of engine was the 283 Chevy which was immediately bored and stroked to 3 inches and now displaces 301 cubes. An Isky 505 Magnum cam, kit added some more health to the package, as did a set of Sterling forged pistons and Ramco rings. Bill Davis ported and relieved the heads; compression ratio is 9.5:1. Fuel is ducted through three 2-barrel carbs mounted on an Edelbrock intake manifold; mixture is fired by set of Champion 18 spark plugs.

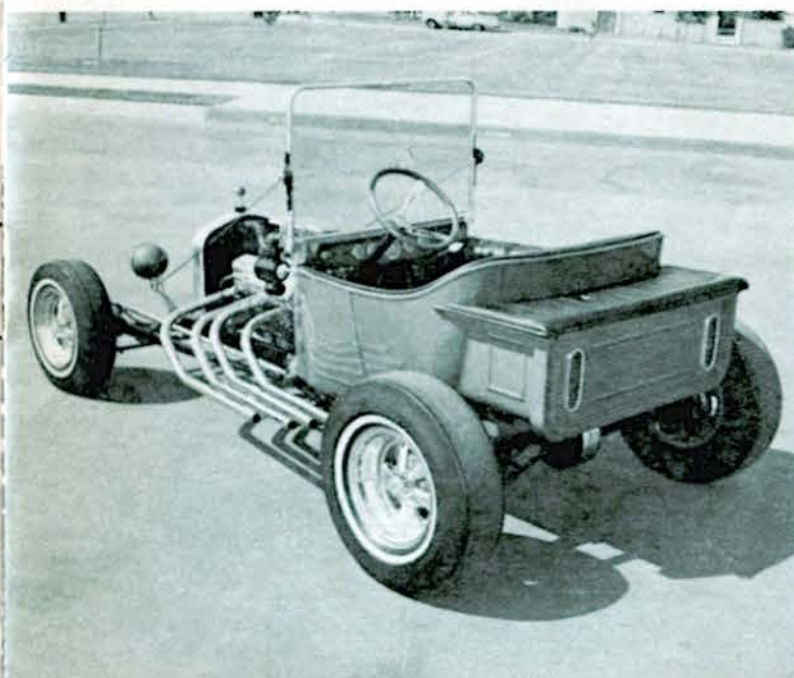
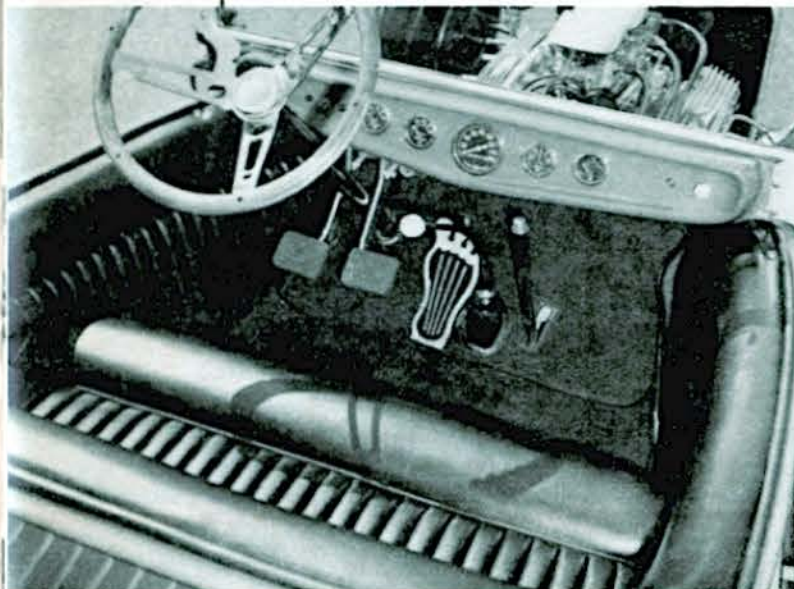
One of the jobs which Ray "farmed out" was the paint job; 20 coats of red lacquer were applied at Watson's Custom Paint, Paramount, Calif. Original parts, such as "T" cowl lamps, radiator shell, windshield frame & wiper and ornaments, were acquired at Antique Auto Parts of Los Angeles. Headlights are of accessory type.

The rear end, including brakes, was taken from a '40 Ford; gear ratio is 3.57:1, stock drive shaft was shortened to 29 inches. A high-arch model A rear spring is used. Taillights came from a '61 Pontiac Tempest. Moon fuel tank is in pickup box.



**PRICE LIST**

	COST
<b>Frame</b>	30.00
20' of 1½" x 3" .120" wall rectangular tubing	6.75
2' of 2½" diameter x .120" wall tubing	
<b>Front &amp; Rear End Installation</b>	
Ford front end	20.00
Ford rear end	20.00
Model "A" front spring	12.50
Model "A" rear spring	18.50
Shackle kits front & rear	5.90
Spring perch bolts (2)	11.50
Radius rod end fittings (4)	8.25
Steel radius rod brackets	.75
<b>Engine Installation</b>	
Chevrolet V-8 engine (used)	75.00
Transmission adaptor—Cragar	35.00
Ford motor mount pads	3.50
2' of 1½" dia. x .120" wall tubing	4.75
Shorten driveshaft & torque tube (labor)	15.00
Ford throwout bearing	6.05
Ford clutch plate	5.75
Ford clutch cover assy.	10.95
Drill and tap Chevrolet flywheel (labor)	5.75
7" x 21" x ¼" thick steel for motor mount	.50
Ford transmission (used)	20.00



<b>Body Installation</b>	
1923 roadster body with pickup bed—U.S. Speed Sport	189.50
1940 Willys steering (used)	15.00
Steering adaptor—Cragar	7.25
Ford tie rod for drag link	2.00
3 sheets of ½" thick plywood	12.00
1 gallon of resin	6.75
4 ounces of catalyst	2.00
1 square yard of 1½ ounce matte fiberglass	2.00
1 square yard of 6 ounce fiberglass cloth	9.00
Acetone 1 pint	.50
<b>Exhaust System—Clutch—Brakes</b>	
Pre-bent tubes for exhaust	10.00
1960-1962 Plymouth mufflers (2)	14.00
Brake and clutch pedal assy.—Ansen	16.95
Slave cylinder—clutch—Ansen	17.95
Chevrolet 1960 truck master cylinder	13.50
Flexible hydraulic lines—rigid hydraulic lines, fittings and misc. hardware for brake hook-up	24.00
Emergency brake handle	7.00
<b>Fuel System—Windshield—Electrical</b>	
Wire loom (2)	4.45
Wire loom brackets (2)	1.75
Fuel tank (used)—Moon	15.00
Fuel filter	2.35
Fuel pump—Auto Pulse	21.95
Fuel block	4.25
Fuel tubing 13' x ¾" I.D.	2.60
Fittings and clamps	4.00
Fuel pump cover plate	1.95
Cowl lamps (2)—Antique Auto Supply	60.00
Cowl lamp brackets (2)—Antique Auto Supply	9.00
Windshield frame—Antique Auto Supply	32.50
Windshield frame hinge (2)—Antique Auto Supply	12.50
Windshield frame post (2)—Antique Auto Supply	14.50
Glass retainer caps (4)—Antique Auto Supply	3.00
Battery—12 volt	15.95
Ignition resistor—dimmer switch—ignition switch—brake lite switch—headlight switch—license plate light—fuse block—terminal board—directional flasher—panel lights—bulbs—fuses—sockets—direction switch	31.00
1961 Pontiac Tempest taillights and sockets	21.10
Horn and horn relay	6.55
Voltage regulator	13.45
Headlights	14.50
Headlight mounting brackets—Ansen	16.95
Gauges and sending units—fuel, oil pressure, ammeter, speedometer, temperature (Stewart-Warner)	73.60
Battery cable 86"	4.14
Battery ground cable 14"	1.75
Battery hold down bracket	1.85
Wire (all sizes and gauges)	4.00
<b>Tailgate Installation—Windshield Supports—Throttle Linkage</b>	
1 quart resin	1.69
1 ounce catalyst	.49
3" x 6' fiberglass cloth	2.25
5' x ¼" rod (2)	1.50
2' x ¼" rod	.30
Clevis & pin	.35
Gas pedal and hinge	2.50
8" x 11" x 1/8" steel sheet	.30
<b>Finishing Touches—Radiator—Upholstering—Paint</b>	
"T" radiator shell (used)	8.00
Rear view mirror	3.95
Upholstering	100.00
Paint	75.00
Radiator tube material and labor	2.85
Windshield Glass	32.08
Firewall aluminum	7.00
Air scoops (3)	11.85
Fan belt	3.00
Windshield wiper	3.95
Motor meter	8.50
Radiator cap	5.50
Radiator wings	3.50
3 sheets ½" thick plywood	4.50
1 quart resin	1.69
1 ounce catalyst	.49
fiberglass cloth	1.25
Radiator hoses	6.00
Radiator hose clamps	1.40
Radiator Core Dodge Dart	45.00
Studebaker bottom tank	3.00
Chevrolet side straps	1.50
<b>Total</b>	<b>\$1399.83</b>



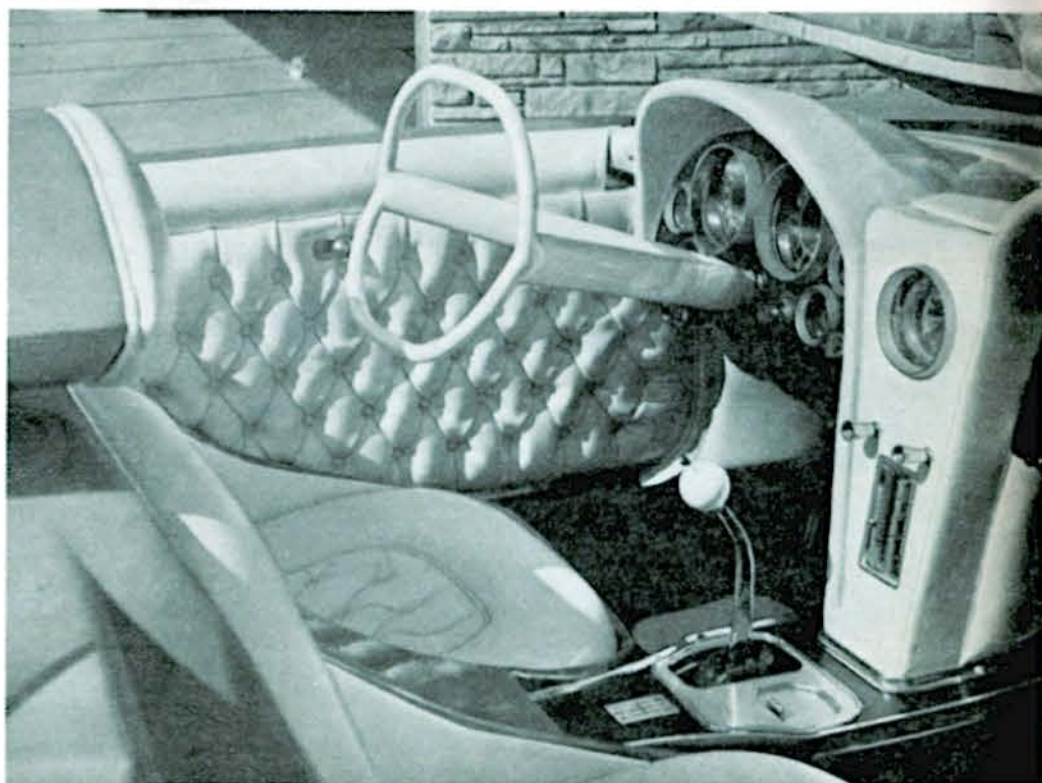
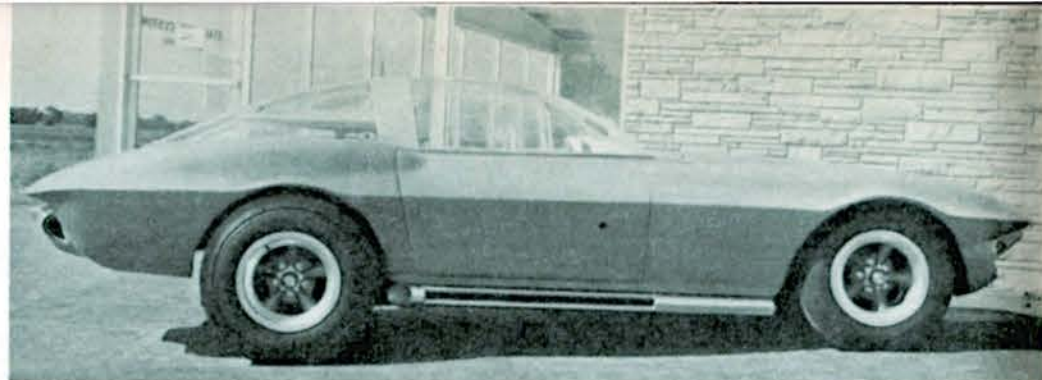
BLACKWELL, OKLAHOMA

*It takes a lot of show car to win Sweepstakes trophy at the National Custom Auto Fair in Indianapolis and in 1964, this was the car chosen by the Fair's judges, as the best custom in a field of good ones.*

*Darryl Starbird went all out, as usual: a '64 Corvette was used as a base—then the treatment began. The wheel wells were opened up, flared and re-positioned. Both front and rear end were entirely handmade.*

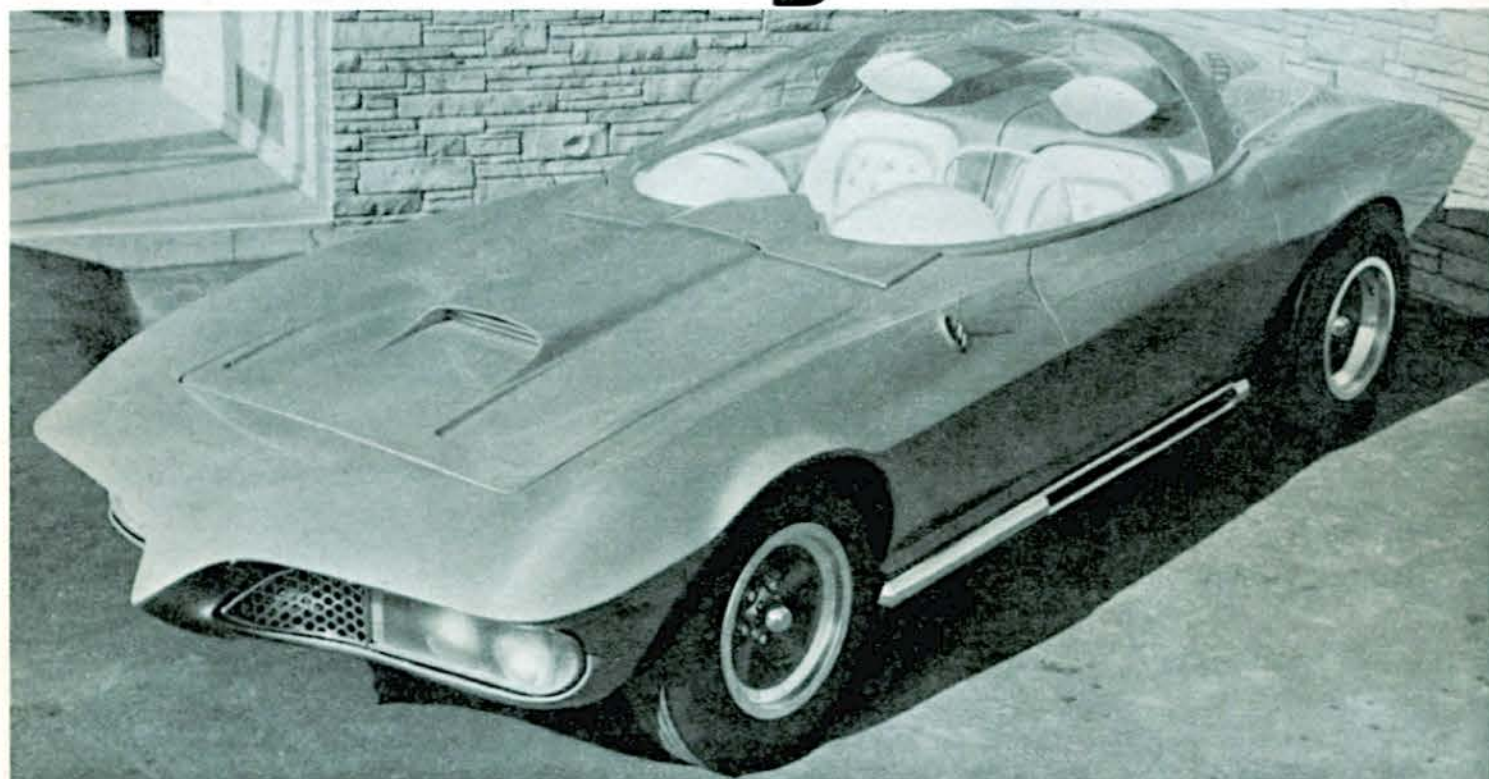
*A special, white Naugahyde interior was created for the Cosma Ray, including custom steering wheel, headrests, dash panel, and console which houses a Hurst 4-shifter.*

*Hand-crafted custom grille work in front houses quad headlights behind a plastic lucite cover. Peaked nose gives car tough appearance from front. Fastback bubble top, offers wide view; is electrically operated.*

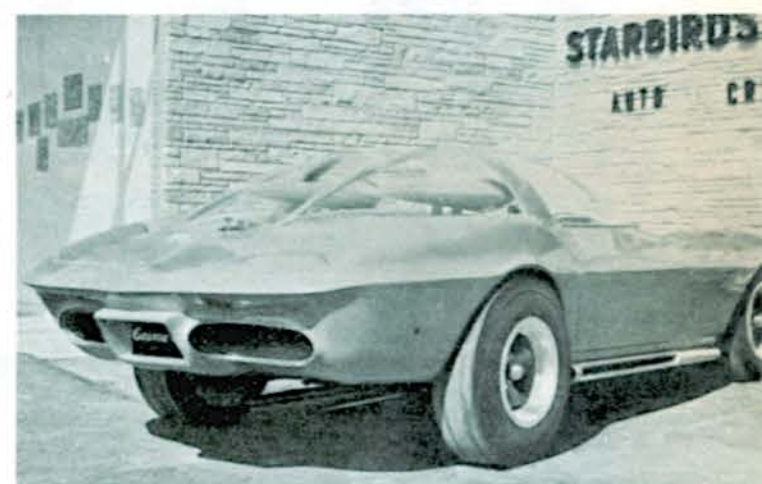
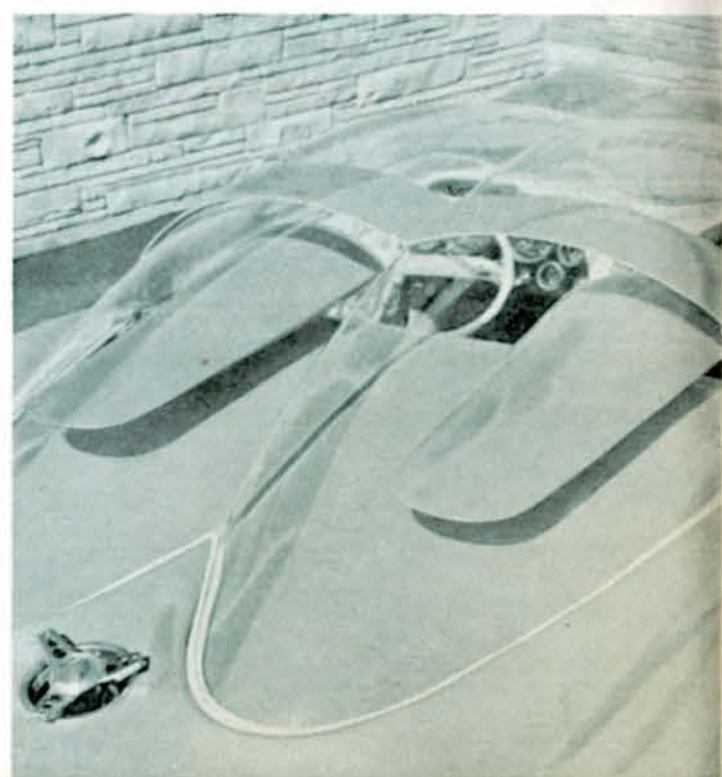
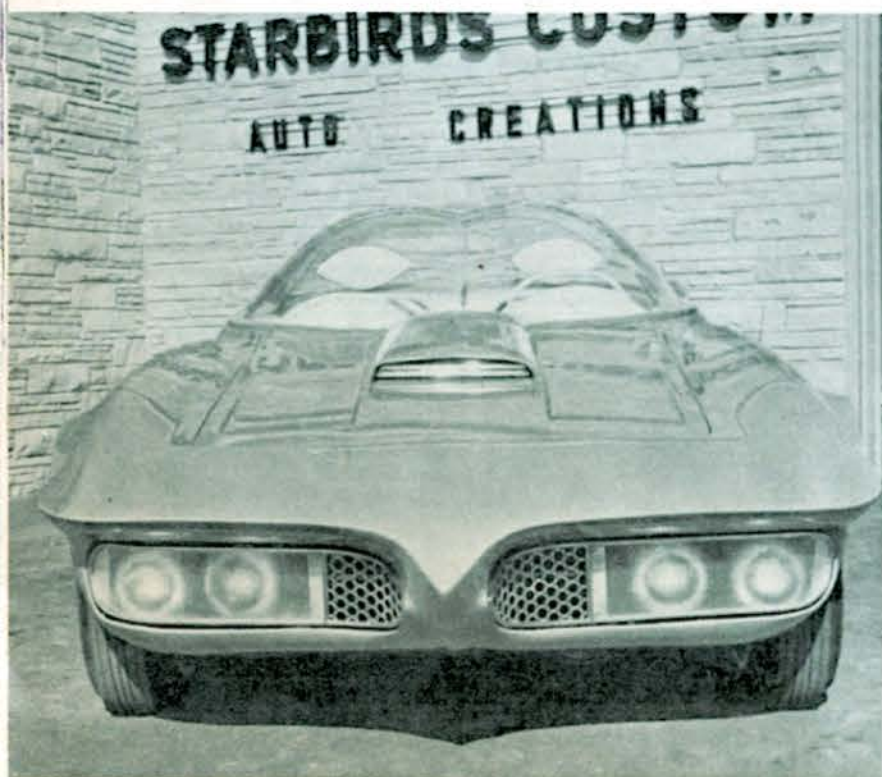


# Cosma Ray

*When Bob Greenwade decided he wanted a show car, he took his Corvette to a man noted for building winners—Darryl Starbird. And once again Starbird turned out a National Sweepstakes Champion!*



Photos by Darryl Starbird



*The engine (not shown) is a 327-inch Corvette running an Isky 505 Magnum cam with Mickey Thompson 12.5 pistons, lifters and rocker arms. Carburetion is by two Buick four-barrels, mounting an Edelbrock intake manifold. Ignition is Spaulding.*

*At left is a photo of builder Darryl Starbird, who handformed the entire body of the Cosma Ray. Darryl, owner of Starbird Custom Creations in Wichita, Kansas, has been responsible for many of the nation's top show cars. This one took six months.*

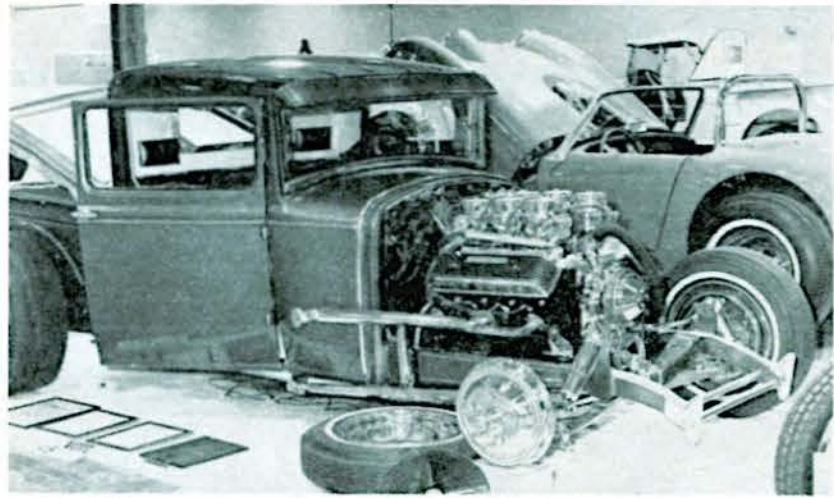
*Polished American Mags and custom-built side pipe lend just enough "chromed" appearance to sleek-bodied car. Race-look comes from set of slicks at rear along with low, lean lines of modified Corvette shell. Car is driveable; handles well.*

DALLAS, TEXAS



# Showtime U.S.A.

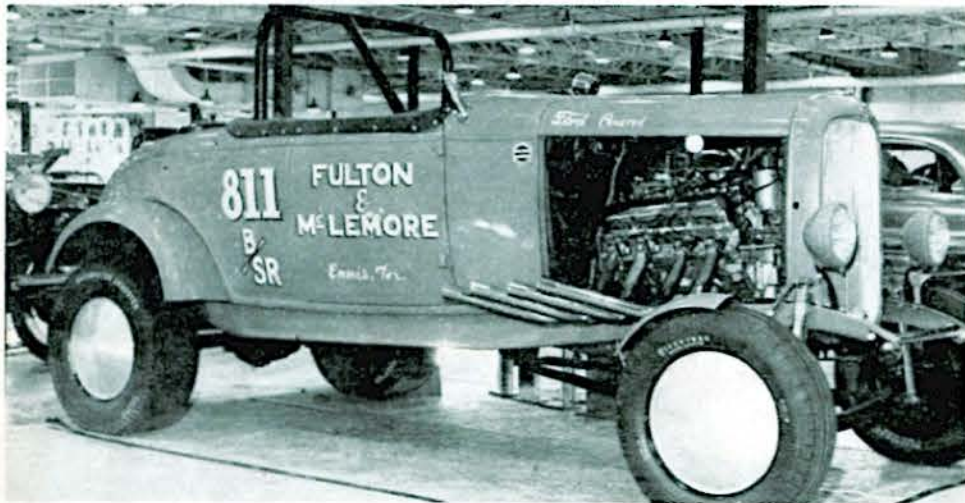
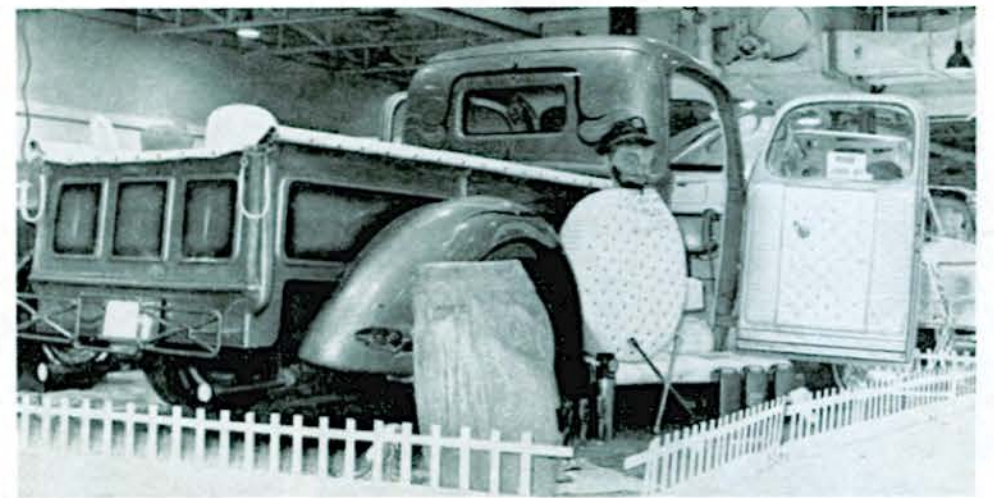
The Quarter Milers' Fifth Annual Autorama played to its largest crowds yet — as the Texas show cars took on some of the finest in the country.



Far left—Troy Curtsinger came over from Arkansas to win Rod Pickup class with his '31 Ford. It features a 7½" channel job, bed shortened 37" and sectioned 2", and body is sectioned 1½". Body seams are filled in and interior is in Naugahyde. Engine is a fully loaded '56 Oldsmobile.

Left—Eddie Cruz of Texas took first in Radical Custom Pickup with his modified '60 El Camino. Top has been chopped and front and rear have been sculptured. The quad headlights are set behind plexiglass. Entire engine compartment was chromed.

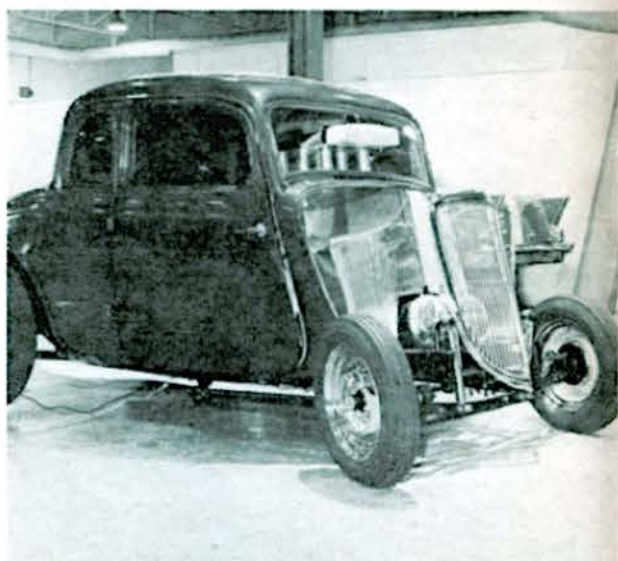
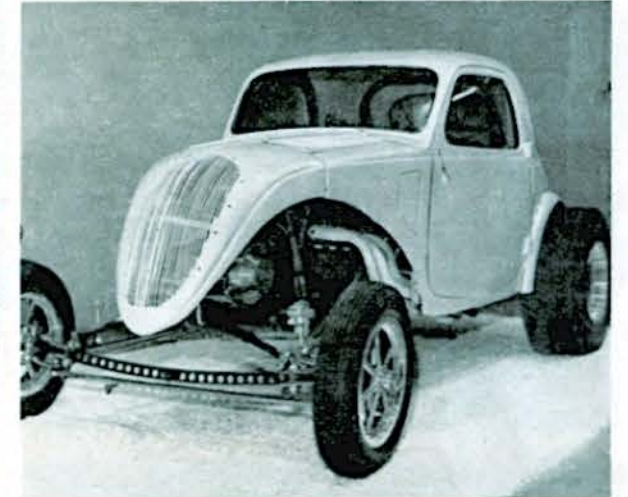
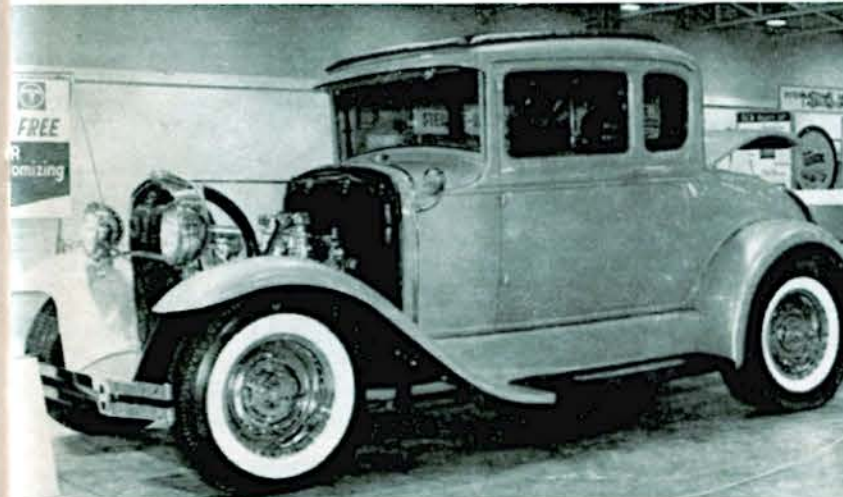
Right—Best Pre-War Pickup honors went to the '40 Ford belonging to L.A. Smith. Interior sports bucket seats, bar, fancy stitching, telephone, tape and TV set. Engine is 289" Cobra. Front, rear nerf bumpers are handbuilt. Wheels are M/T.



Left—Fulton & McLemore had no trouble winning Competition Roadster class with their wild rod. The Deuce is powered by a 427 Ford running Vertex magneto and a Crane cam and kit. Special gears are run in a '57 Merc box. Took 3 years to build.

Right—Top spot in the Street Coupe & Sedan category was taken by Jack Collins of Hurst, Texas, with his ultra clean '30 Model A. Top of the coupe is done in Naugahyde as is the interior. The mill is a '50 Ford, truck trans, Stude rearend.

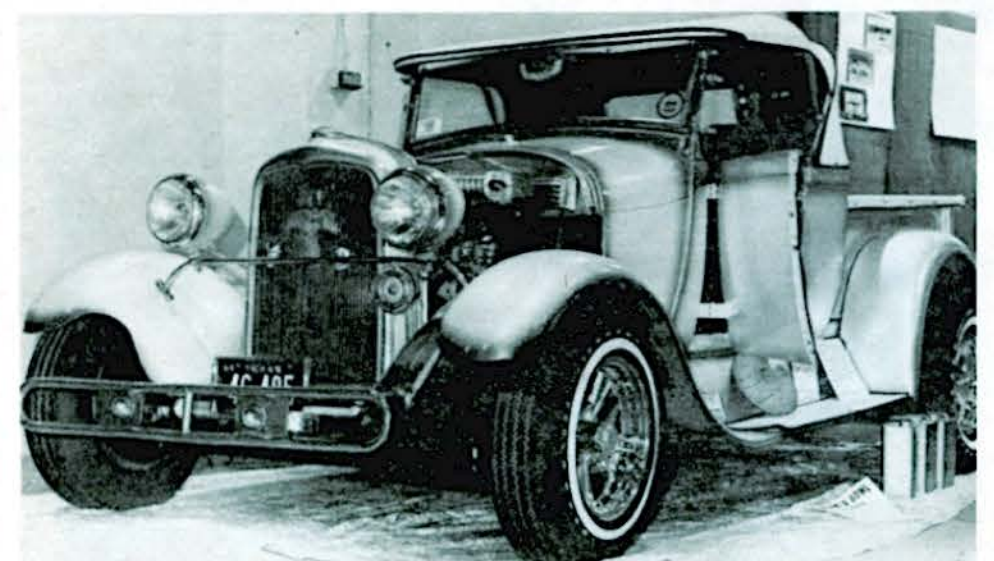
Far right—This '38 Fiat, owned and reworked by Buddy Anderson, Dallas, took Best Competition, Best Engineered, and first in Foreign Sports. The little runner has a 327" Chevy mill, Model A frame, aluminum interior, bucket seats, '40 Ford steering, tube crossmembers, 'A' front axle.



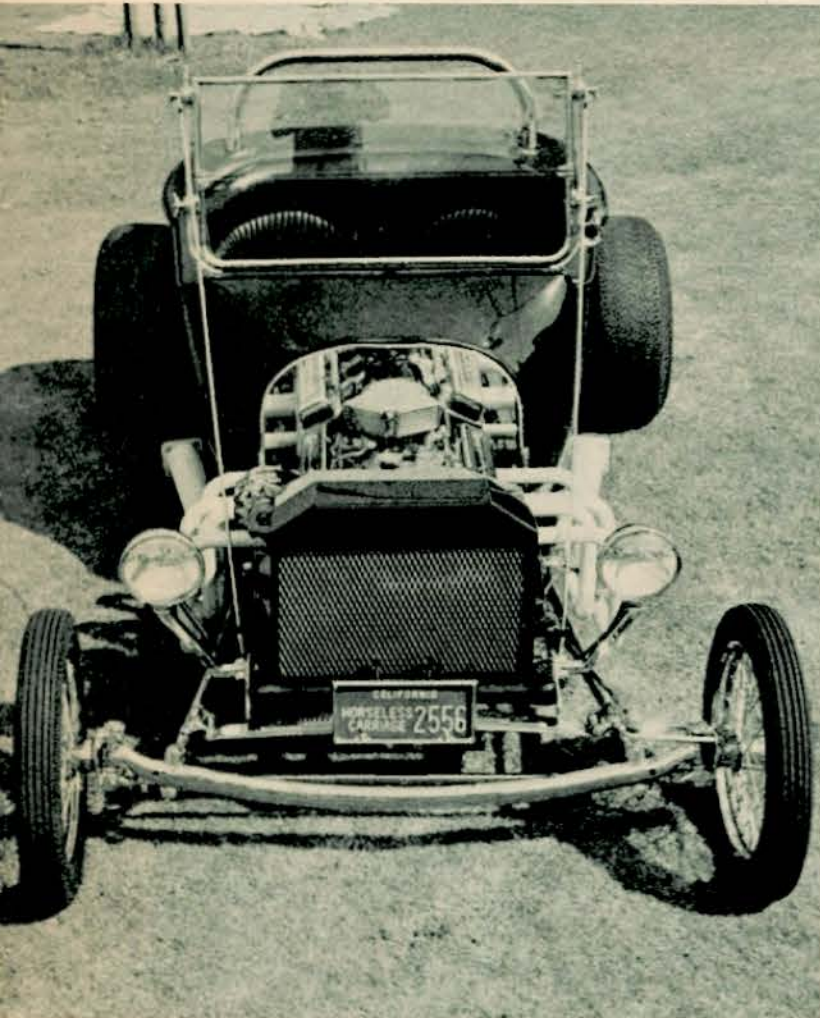
Far left—A neat show and go machine from Missouri is this '40 Ford, owned, built and driven by Terry Moore. Chassis is chromed, '57 Chev mill is warmed up with many goodies. '62 'Vette 4-speed is used with Olds rear axles and Getz gears. It was judged Best Pre-War custom car.

Left—"The Ace," owned and built by the Wilder Bros. of Dallas, is a much shortened '34 Ford coupe with a big '55 Olds mill really moved back into the driver's compartment. The full house engine teams with B&M Hydro Stick, Inglewood slicks and Velvetouch brakes. It really hauls.

Right—Tough competition in Roadster Pickup class forced Bob Bartlett's '29 Ford to settle for a second. It runs a 301" Corvette mill with fuel injection heads and series 300 cam. Fade-away job is done in pearl yellow lacquer. The top has been chopped, remainder is near stock.



# you just can't hardly find this kind anymore

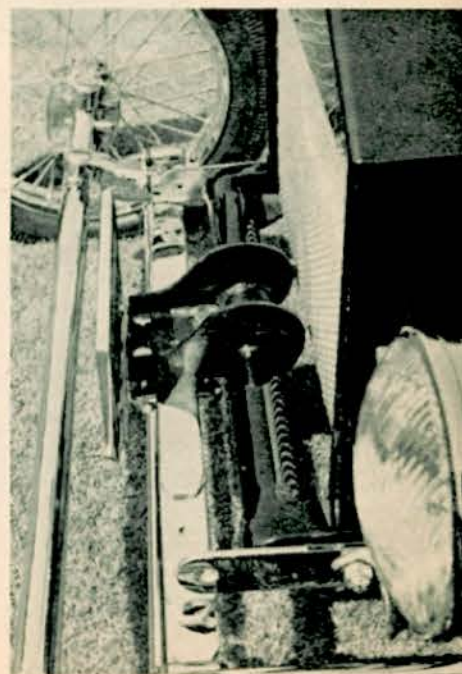
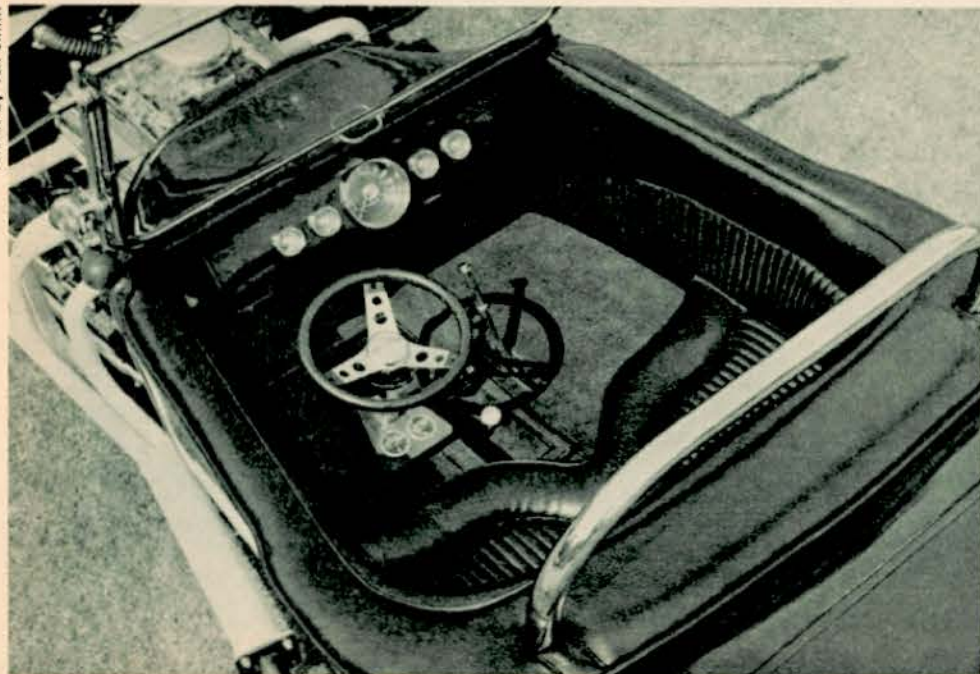


MONTEBELLO, CALIFORNIA

Ron Hurd combined a 1919 Dodge body and a 'Vette mill to come up with his extremely rare and rapid roadster



Photos by Tex Smith



Ron built his Dodge roadster primarily to have a car which could be seen on a drag strip and still be street driveable. He had previously put together a '32 Ford roadster, so he met no serious construction problems on this immaculate machine.

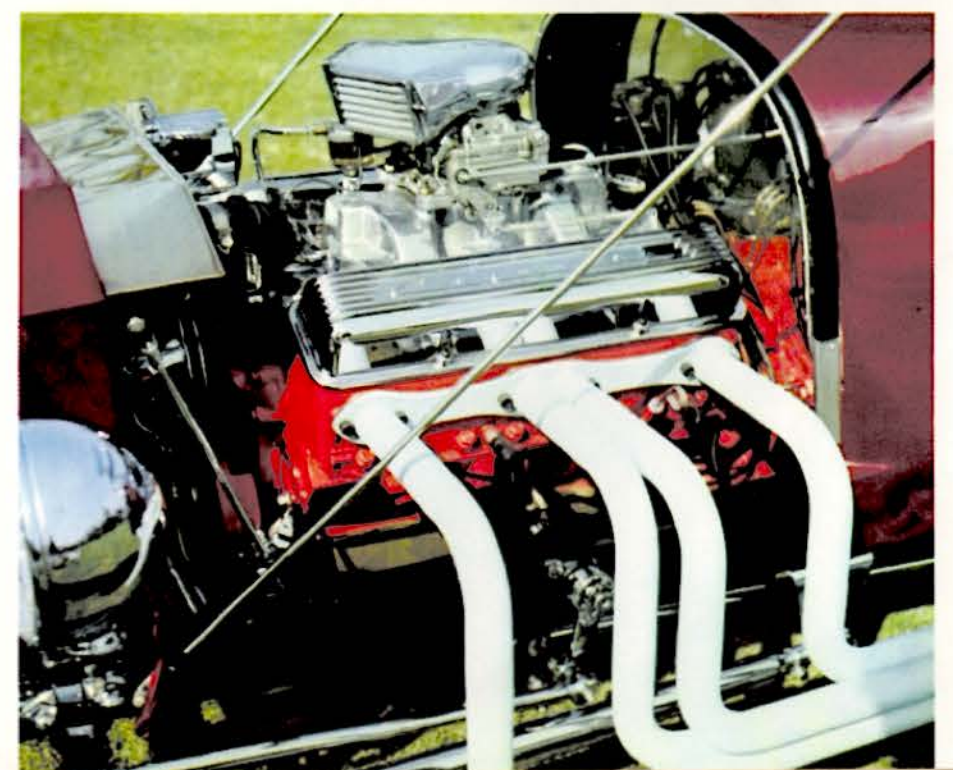
For power, Ron went to '63 'Vette 327-incher, left essentially stock. He crafted his own set of headers; carburetion is through AFB single quad.

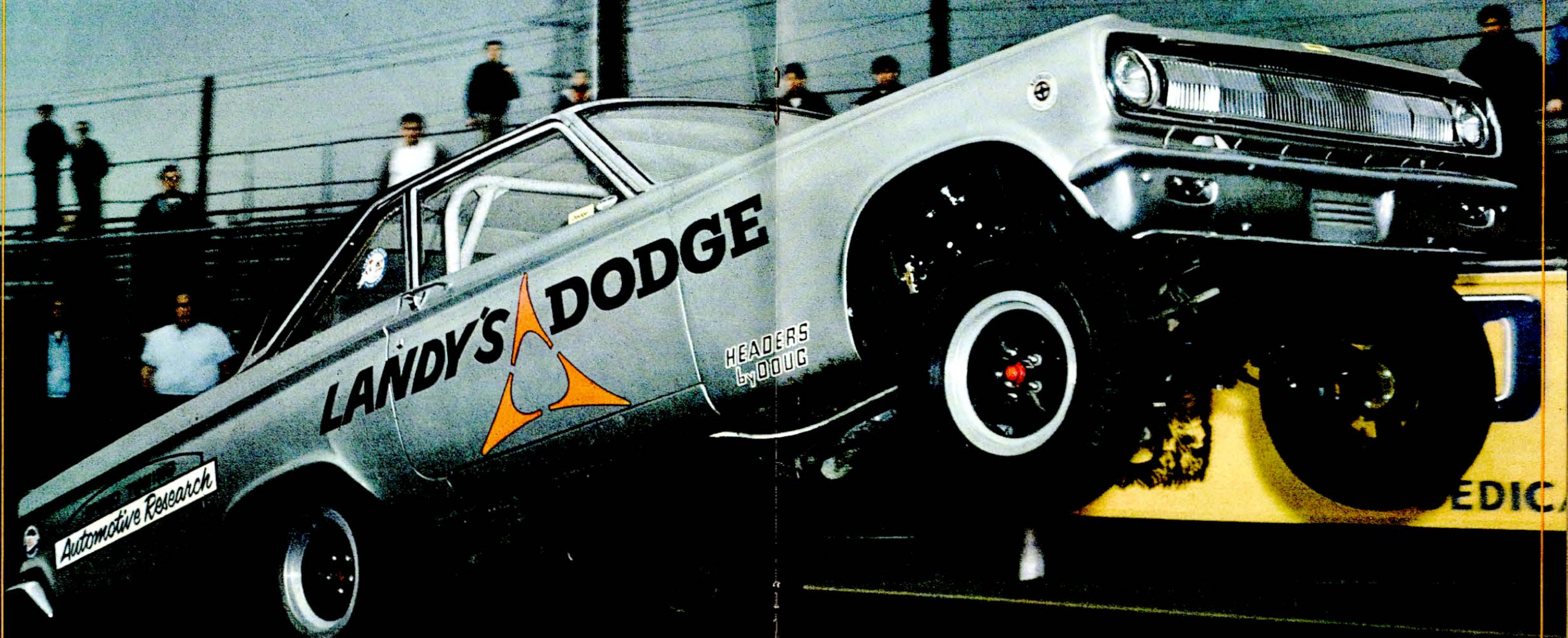
The 1919 Dodge roadster body was mounted on a '30 Model A frame with a wheelbase of 107 inches. '57 Chevy rear suspension was utilized; front is stock Ford. Tranny is a '63 'Vette 3-speed; open driveshaft is used. Front wheels are Harley Davidson, rears American mags, Daytona Firestones up.

Finish is candy maroon lacquer, shot on by Ron in his own front yard. In fact, Ron did almost all of the work on the car himself, including a 4-inch channeling. Grille was fabricated aluminum and brass plated. Headlights are Dietz; taillights are set of '64 Dodges. Total investment was \$3,200.

Ron also built the instrument panel, made to house a set of '56 Dodge gauges. One of the few sent-out jobs was the upholstery, stitched by Joe Perez in black Naugahyde. Chrome by Sunland Plating.

Additional goodies are '48 Ford spindles and 1956 Ford steering gear, hooked to a 12-inch Covico wheel which Ron states steers easier than a Detroit stock car. Brakes at rear are Velve Touch.





CAR CRAFT **ACTiON** SHOWCASE

Dick Landy's Hemi-Charger Dodge — 138.20 mph

# CONTINENTAL

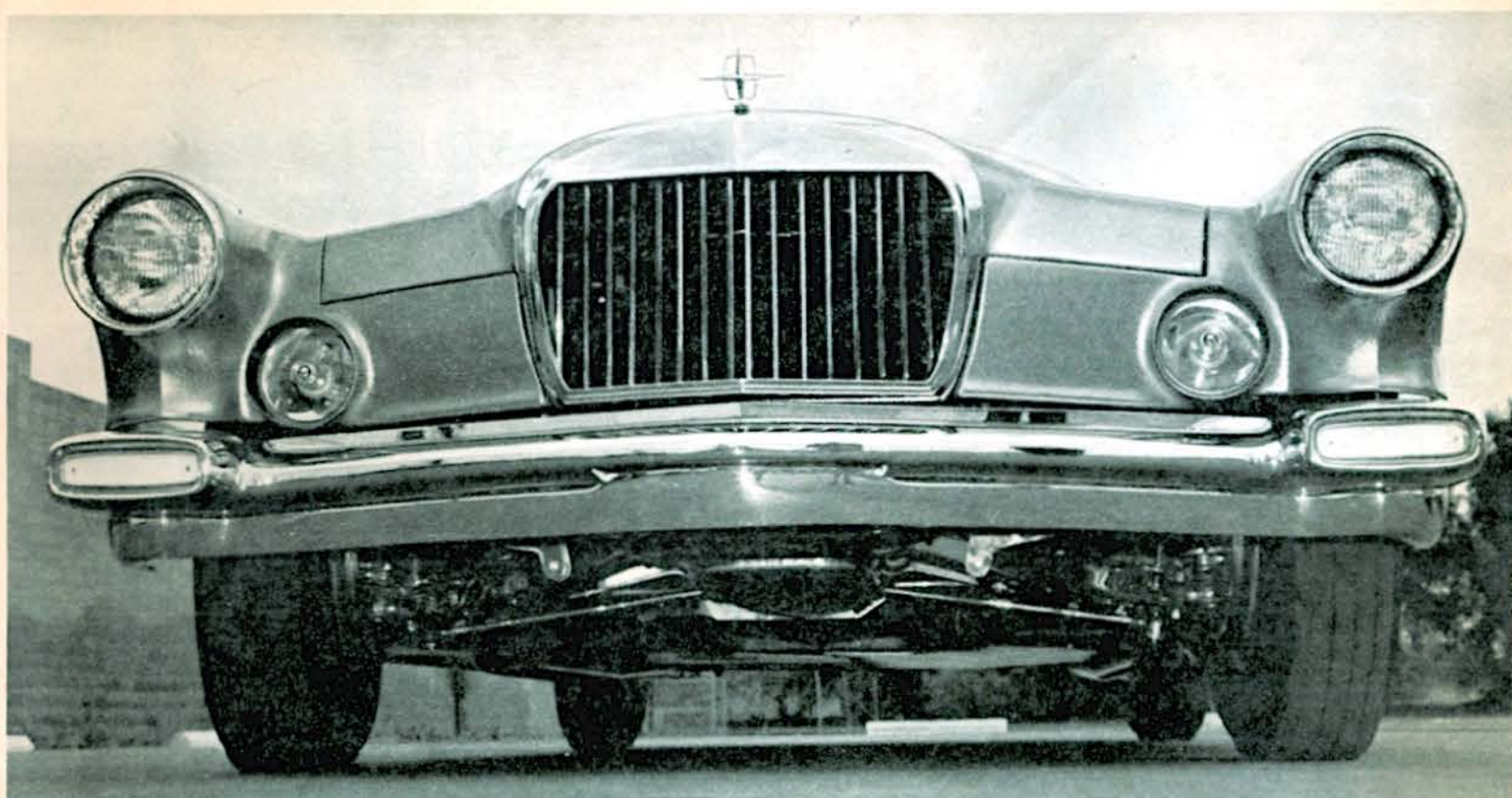
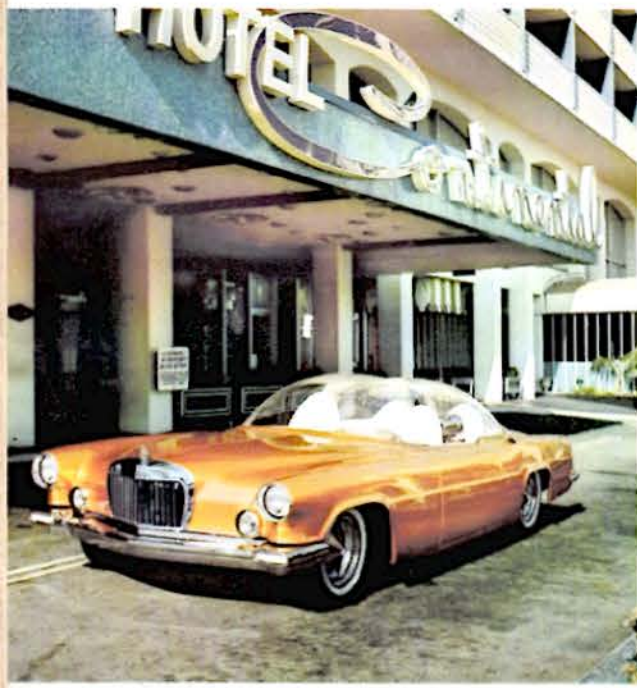


## with LOADS OF CLASS

The outstanding feature of the Continental is the interior. It is absolutely fantastic. The swivel bucket seats are done in pearl-hued leather and are backed with walnut wood. A few of the things contained in the interior are: walnut dash panel and console, stereo tape player, electric razor, TV, vanity, drink tray, and all electronic control switches. Carpeting is done in long-haired Iceland sheepskin. It's a real gas.

The double-bubble top was custom formed to fit the Continental by Acry Plastics. There are small cut-outs on each side to allow entry and exiting with ease. The two doors are also operated electronically.

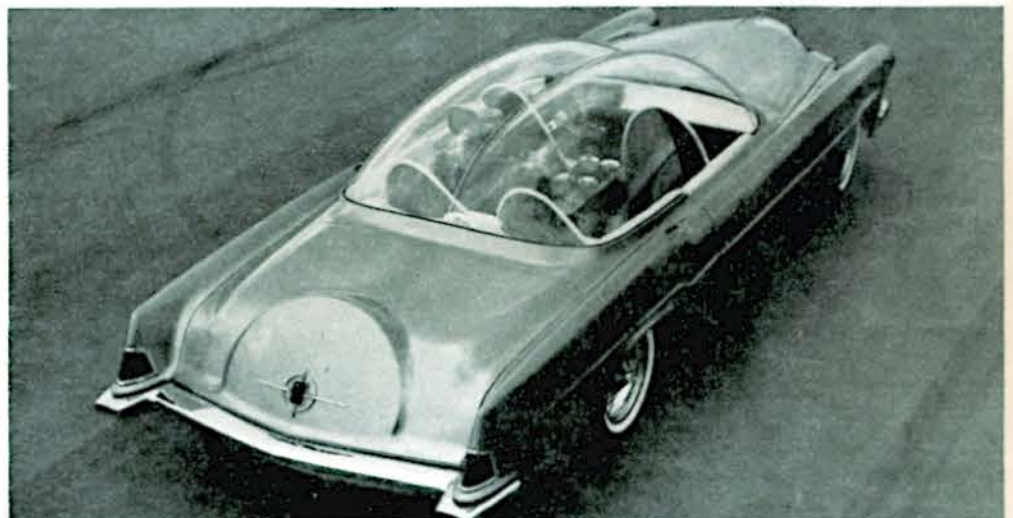
The heavy spoked wheels are from Walker Aluminum Foundry. The spokes have a polished raised section with the flat areas being painted to match the car's exterior color. Whitewalls are US Royal Masters.



The successful combo of Gary Lee and Lee Wells has turned out a radical custom that is out of this world—as proved by a room full of trophies!



NORTH HOLLYWOOD, CALIFORNIA

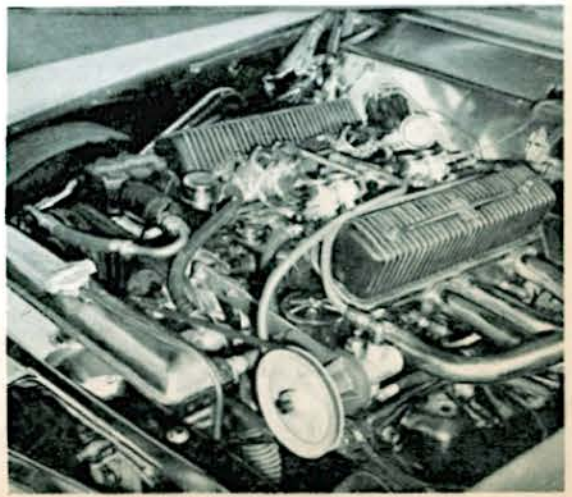


Original cost of the '56 Continental was \$12,000 and was donated to the cause by Gary Lee's godfather, Alex Dreyer, Chicago news commentator. Rebuilding took a year.

The body was channeled 5 inches by Jack McKay, front and rear bumpers were sectioned. Headlights are a combination of stock and Lucas lamps; grille components include a Mercedes shell, 1/4-inch aluminum bars and Lincoln emblem. The engine was allowed to stay stock, Hilborn injected.

Lee Wells (in photo at right) stands beside sleek Continental. Car has won innumerable awards at car shows throughout country. In 1964, it earned Best Experimental in every show entered, took it again at the '65 Winternationals in Los Angeles, Calif.

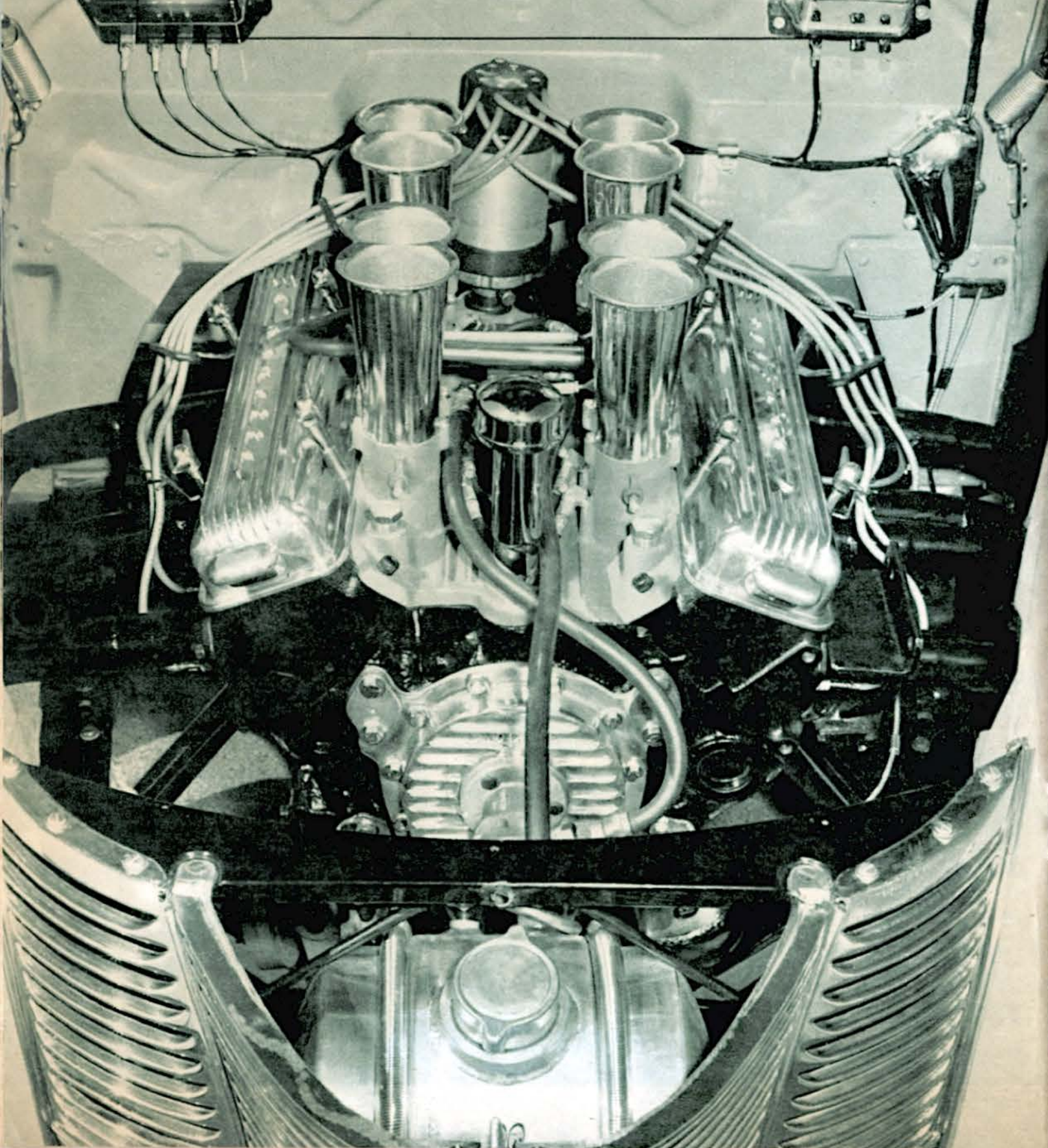
Magnificent finish was applied at Junior's House of Color in Lynwood, Cal. Includes 20 gallons of "marigold" metalflake lacquer.



Photos by Pat Bruller



# A '40 THAT FLIES



Starting out by building a nice street machine, Steve McGee couldn't stop modifying his coupe for performance. Today, the only action it sees is on the dragstrip!

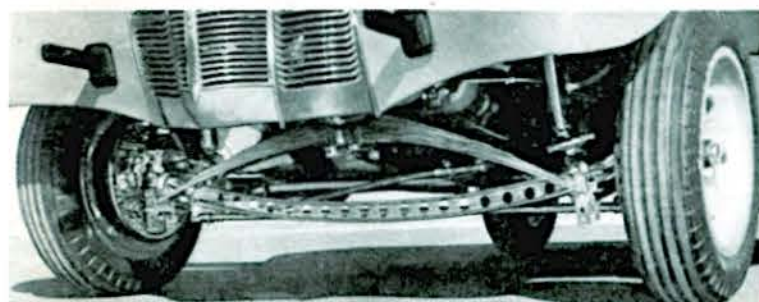


PENDLETON, OREGON

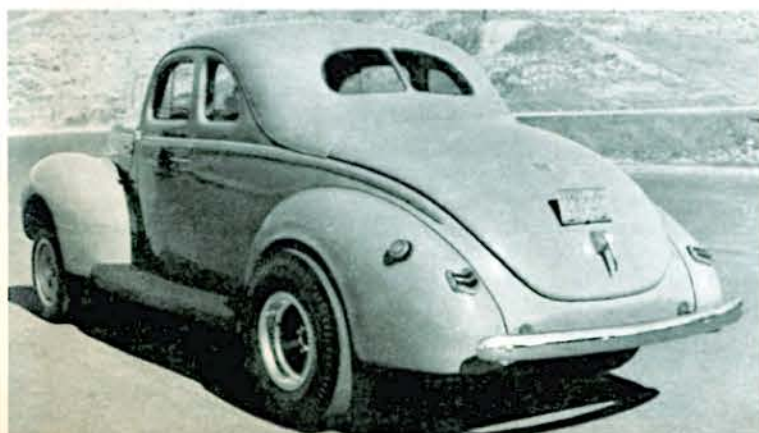
Steve's had quite a little success with his '40; on the strip he's had a best e.t. of 12.51 seconds coupled with a 111.27 mph top end, and holds records at McMinnville and Pyallup drag strips; the car has been entered into two car shows and has taken one first place and one third place trophy.

The mill is a 265 Chevy, bored out to 3 7/8 inches and now displacing 283 cubic inches. Steve installed a Racer Brown roller cam (X103), pushrods and lightened rockers and runs J.E. 13.3:1 forged pistons with Grant rings. The heads were ported, polished and cc'd and an Enderle injection setup installed. A Joe Hunt magneto fires pump gasoline.

Steve runs a Lincoln Zepher 25-tooth transmission in a '39 Ford box, Schiefer 10 1/2" clutch, Howard blow-proof alum. flywheel.

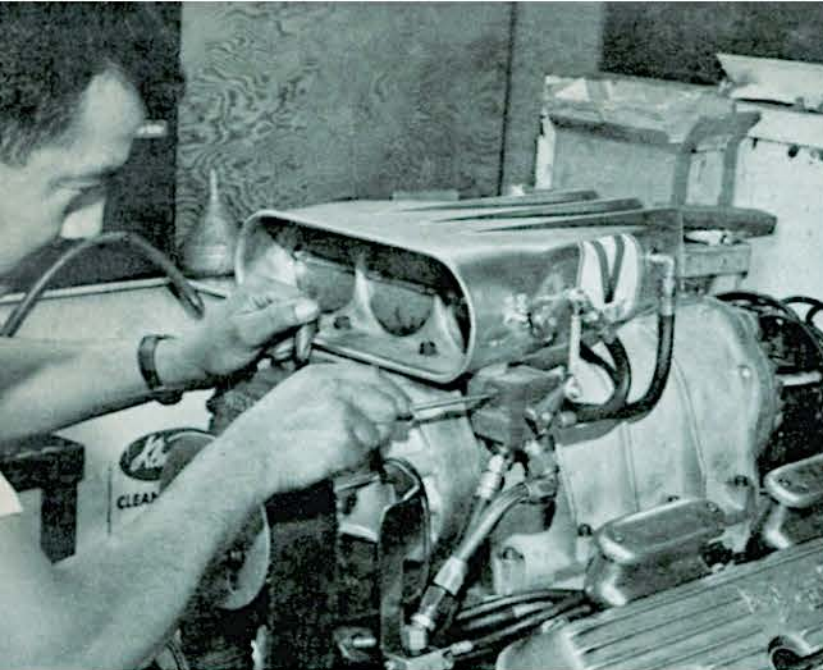


The front end utilizes essentially stock components; the spring has been re-arched and a set of Cure Ride 90/10 shock absorbers were installed. Front tires are Firestones, mounted on sharp Halibrand rims.



The interior was stitched by Mark Thomilson of The Dalles, Ore., in black Premier Naugahyde. S-W gauges are used with Sun Tach.

The only modifications made to the body were to radius the rear wheel wells to make room for a set of M&H slicks on American Torque Thrust wheels. C-gas coupe runs a Halibrand quickchange and semi-floating axles and backing plates, taken from '51 Merc.



by Bud Lang

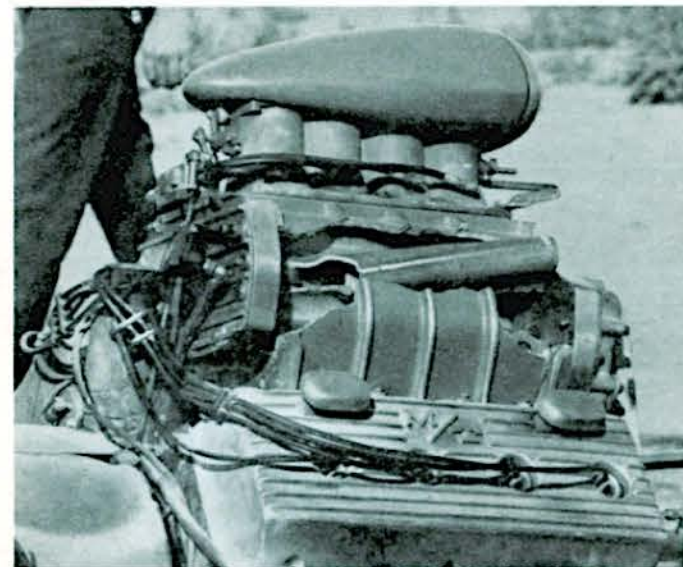
## BALANCED INJECTION

*Improving fuel distribution in a blown/injected engine may save it from destruction*

A MULTITUDE OF problems have always been prevalent where GMC superchargers and fuel injection systems have been combined to boost the horsepower of an engine. Generally one or more cylinders will run richer than the others, most likely the rear ones, and where one of the cylinders runs too lean either the piston burns or backfire is experienced, the latter problem being the most destructive since the blower usually explodes. Everyone involved in the business of making race cars that win races has at one time or another attempted to solve these problems, especially the injection system manufacturers.

One of the people concerned is Bruce Crower of Crower Cams & Equipment Company in Chula Vista, Calif. Recognized as one of the top cam designers in drag racing today, Crower, too, was disturbed by the uneven fuel distribution problem. Where others are still resorting to all sorts of "tricks" to get the most reliable performance from injected blower setups, it appears that Crower is the first to come up with something concrete—a fuel system that distributes fuel evenly and in the right doses.

The Crower method is nothing actually revolutionary. He makes some modifications to the blower manifold itself,



Every weekend, on a drag strip somewhere, a supercharger will go the route of this one. The explosive force in a blower can be likened to a hand grenade. Proper injection can stop this.

reroutes the fuel lines, and installs a check valve at the manifold fuel block. Of course it all isn't that easy, so we'll take a bit of time to explain just what the Crower people do to make the Gimmy blower/injector setups run better, and why.

The sole purpose of the Crower system is to eliminate uneven fuel distribution which unfortunately occurs when fuel is fed into the supercharger. Fuel is fed evenly through each nozzle in the injection system but once it enters the supercharger case and exits into the manifold no one has control over the fuel mix from then on. As is often the case, one cylinder or more will often get a richer charge than another. And as pointed out above, this can only cause trouble.

Both the Hilborn and Enderle "bugcatcher" type of injection systems are popular with racers today. The system used by Crower in this modification is the 4-hole Hilborn; similar adaptations can be made on the other styles. The first step in altering this system is to remove the four nozzles on the left side of the injector and install pipe plugs in the holes. The remaining four nozzles are replaced with special Crower units that extend into the centers of the injector outlets, spraying the fuel directly into the center of the supercharger. Next, the fuel distribution block on the lower right side of the injector is drilled and tapped on the bottom side to take a 45° 1/4" pipe fitting. This outlet will route fuel to a second distribution block attached to the front center of the supercharger manifold.

At this point we encounter one of the most important features of the Crower system. Between this fuel line and the second fuel block is a spring-loaded check valve which allows fuel to pass only when the pressure in the line exceeds twelve pounds per square inch. The outlets in this block are fitted with eight fuel lines, four directed to each side of the manifold.

Having arrived at the manifold, we now discover where most of the modifications have taken place. Crower has designed a special jig to support the manifold while eight holes are drilled into it, one into the center of each transfer passage leading into the head ports. Another set of special Crower-designed nozzles are installed in the manifold at these points.

So far Crower has removed four of the original hoses and nozzles, replaced the remaining four with special centering types, tapped into the original fuel block so that part of the fuel being delivered will be routed through a check valve and into a second fuel block, then into the manifold via

eight fuel lines, one to each transfer passage in the manifold.

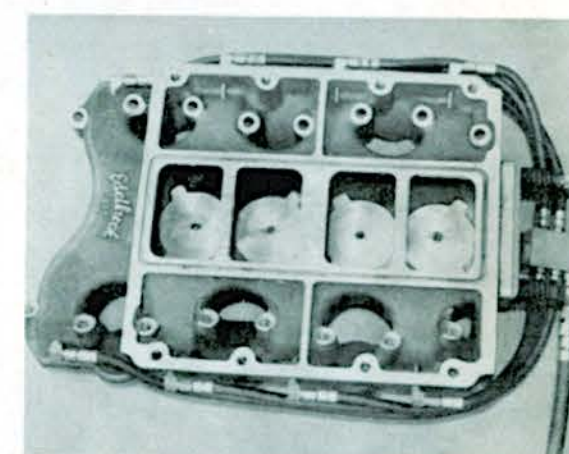
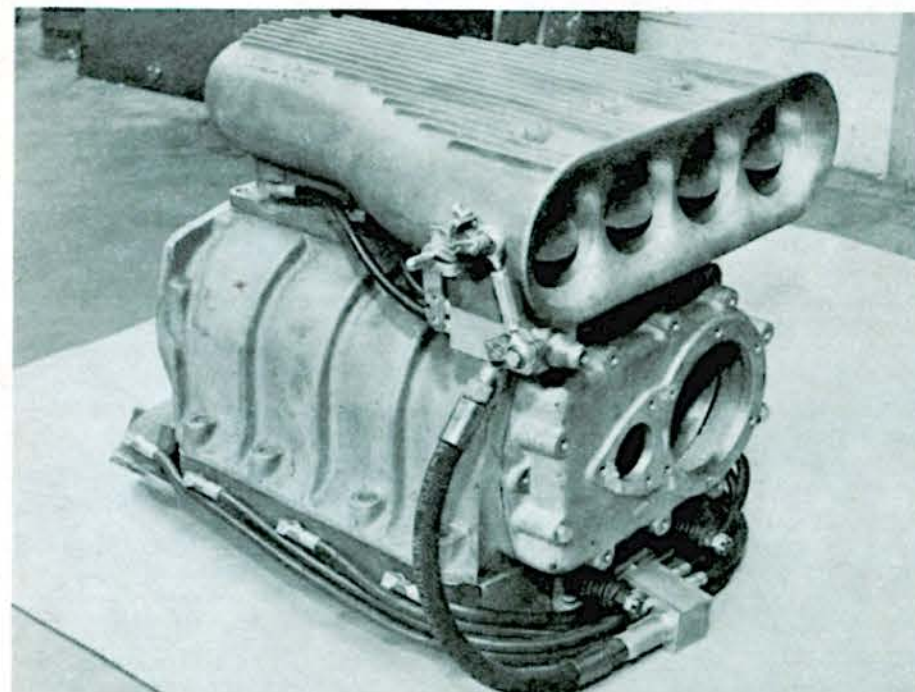
Now for Crower's reasoning. With four nozzles (and the proper jetting) feeding fuel directly into the center of the supercharger inlet there will be enough fuel for the engine to respond readily and produce plenty of power without loading up. By directing this fuel spray into the exact center of the supercharger, chances are improved of having the fuel/air mix more completely balanced. As soon as the fuel pressure reaches twelve pounds the check valve will open, delivering fuel directly into the manifold passages and finally the engine. Now you are probably wondering if the original eight fuel lines couldn't have performed the same task.

To be honest, as they are now designed—NO! With the eight lines feeding the injectors on the low end of the rpm scale, engines have always been bothered by too rich mixtures while firing up and awaiting a run. Since the engine is still running at the same rpm on the line with the Crower installation, the blower will still pass the same amount of air, but is being fed a little less fuel. When the fuel pressure finally causes the check valve to open, then and only

then will more fuel be available, and when it is needed—on the middle and top end of the run.

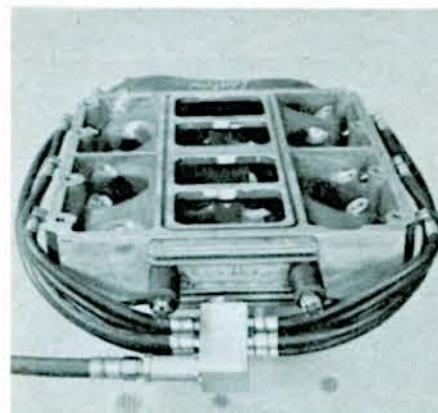
Unlike a few similar modifications setups, the Crower manifold nozzles do not spray fuel into the manifold passages. They are so designed that the fuel is sprayed through the passage directly into the head transfer passages into the valve pockets. This is the whole secret of getting a more equal distribution of fuel into the cylinders. The combination of spraying fuel into the injector, to be mixed with incoming air, and spraying fuel directly into the valve pockets, is paying off.

Drivers are reporting better throttle response, some are even going faster with less nitro percentages, and backfiring is eliminated due to no more lean cylinders. Pistons aren't being burned, either. Another benefit is that since the blower is passing less fuel, viscous friction is reduced requiring less engine power to turn it. These are benefits to be had in having Crower Equipment give you the treatment, and by all indications, this is the way to go. The only tricky job involved is modifying the manifold, which they are set up to do for any customer.

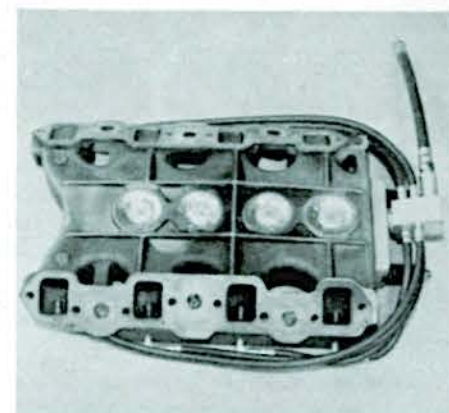


Looking into an Edelbrock blower manifold reworked by Crower reveals blanked pop-off valves. The ports were welded up to eliminate turbulence caused by springs.

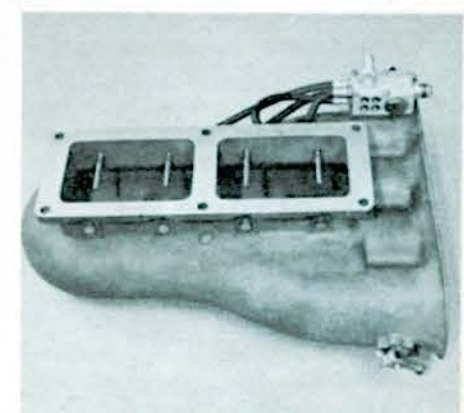
A completed balanced injection set-up is seen at left. Fuel enters block on the injector, feeding it continually while passing fuel to the check valve manifold.



The line coming in from the left delivers fuel from the injector distribution box into the check valve, then the manifold fuel block, finally into eight fuel lines.

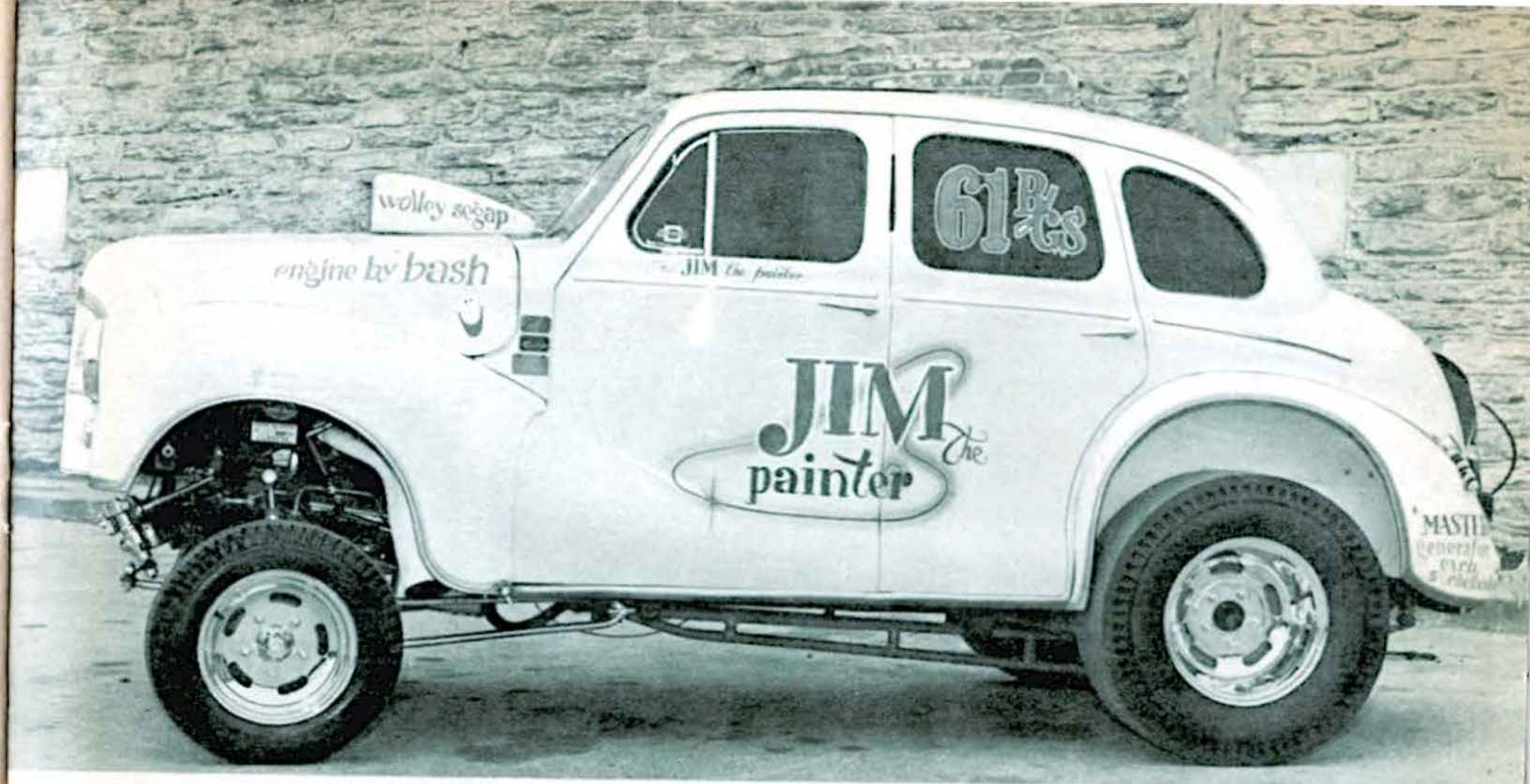


Underside of the manifold shows welded up pop-offs and fuel nozzles that spray fuel directly to valves. A Weiland pop-off valve replaces stockers on manifold front.



With four nozzles blocked off, the four Crower nozzles must protrude into the center of the injector ports for even distribution into the blower. Fuel sprays down.

# Austin Built for Action



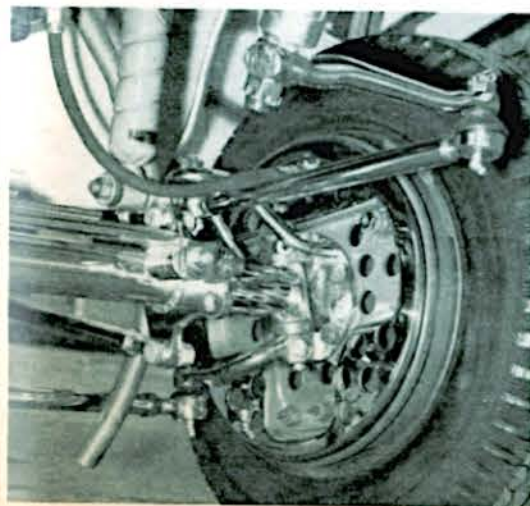
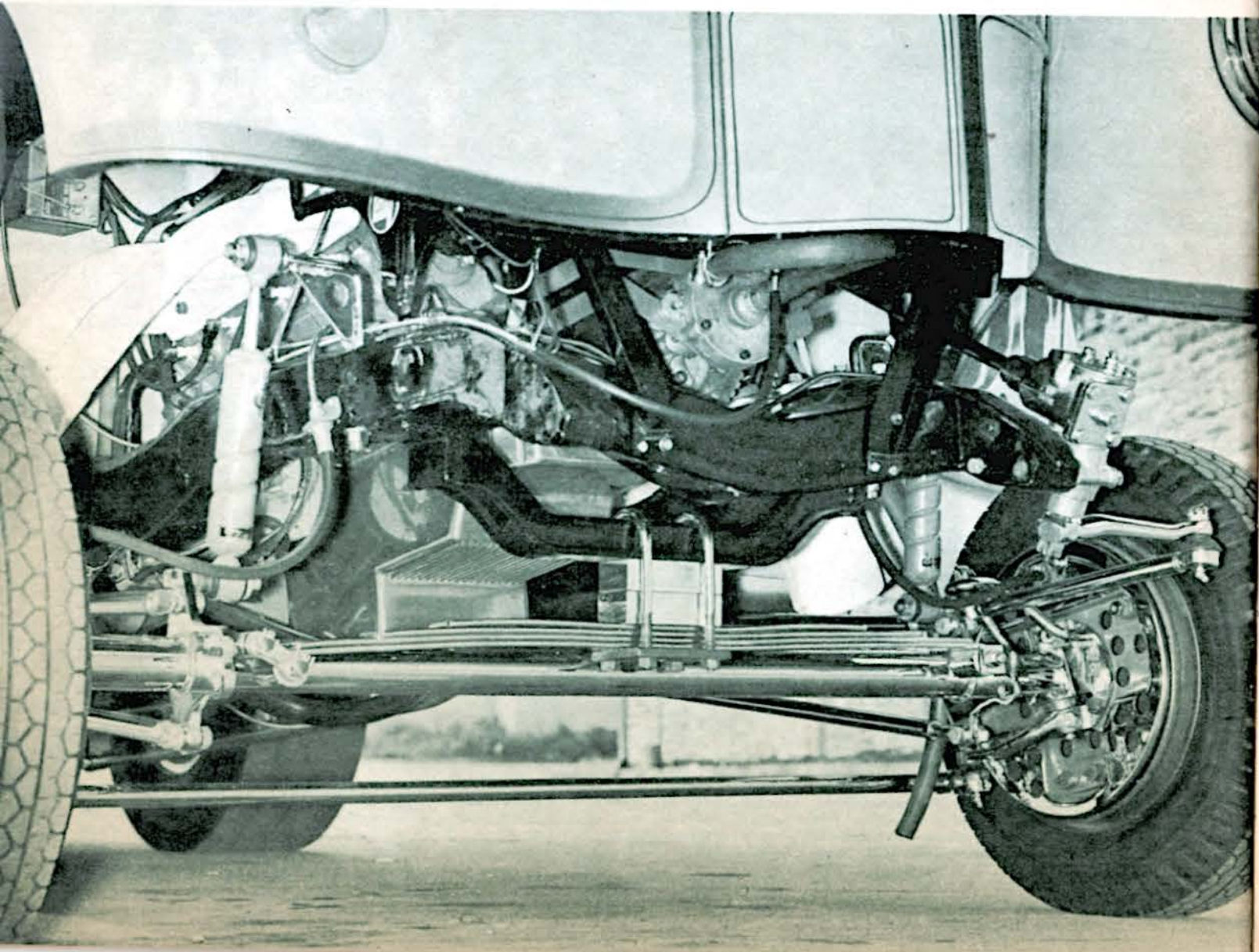
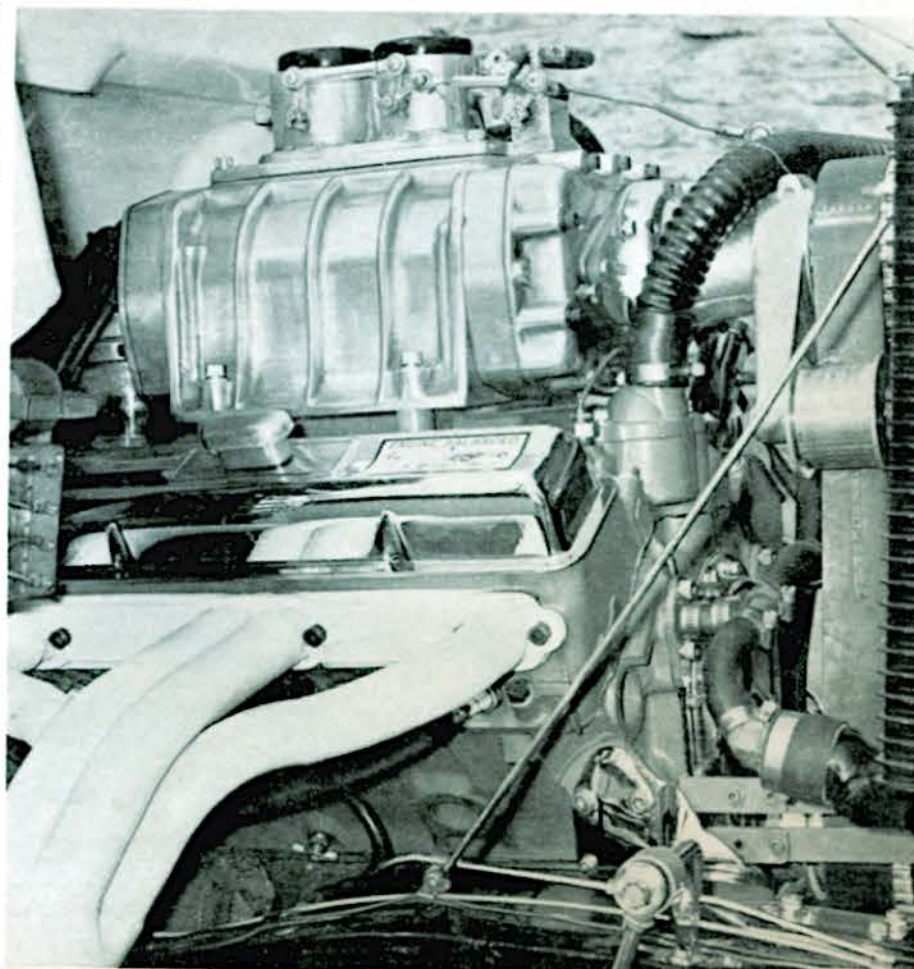
## A BLOWN, INJECTED CHEVY HAS PULLED JIM HARTNER'S IMMACULATE ENGLISH AUSTIN TO 11-SECOND QUARTER-MILE SPRINTS

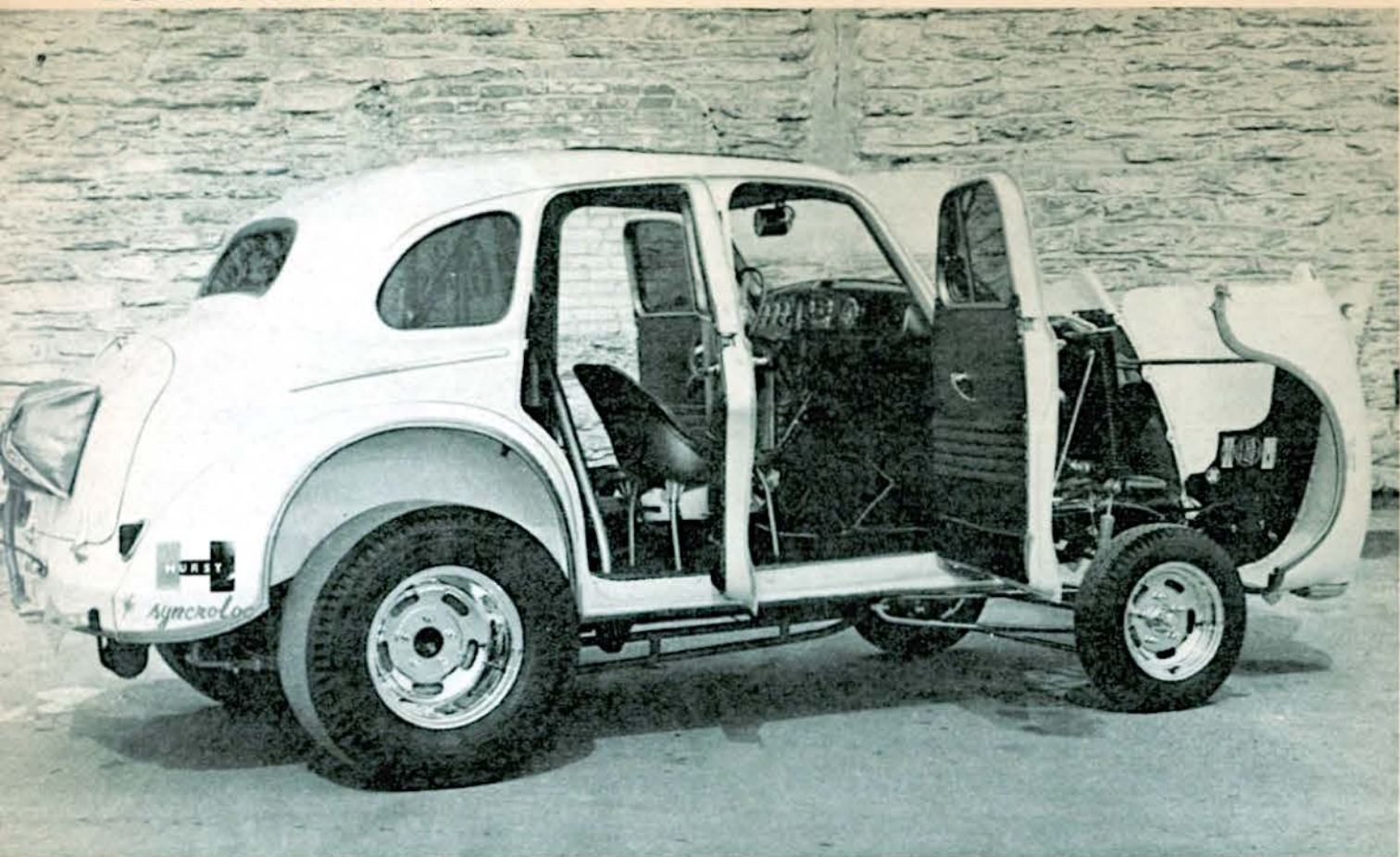
*Jim Hartner, a Philadelphia fireman, has been a hot rod enthusiast for 14 years. He built this drag car for the strip and the show floor, wanting something different. In addition to the Austin, Jim owns a '60 Chevy El Camino tow car painted to match dragger.*

*Exterior finish is golden yellow lacquer, shot on by Jim, himself, who also applied the metallic blue trim and striping. Appearance was left stock wherever possible; additions include a custom push bar at the rear and a fiberglass grille. Wheels, Astro.*

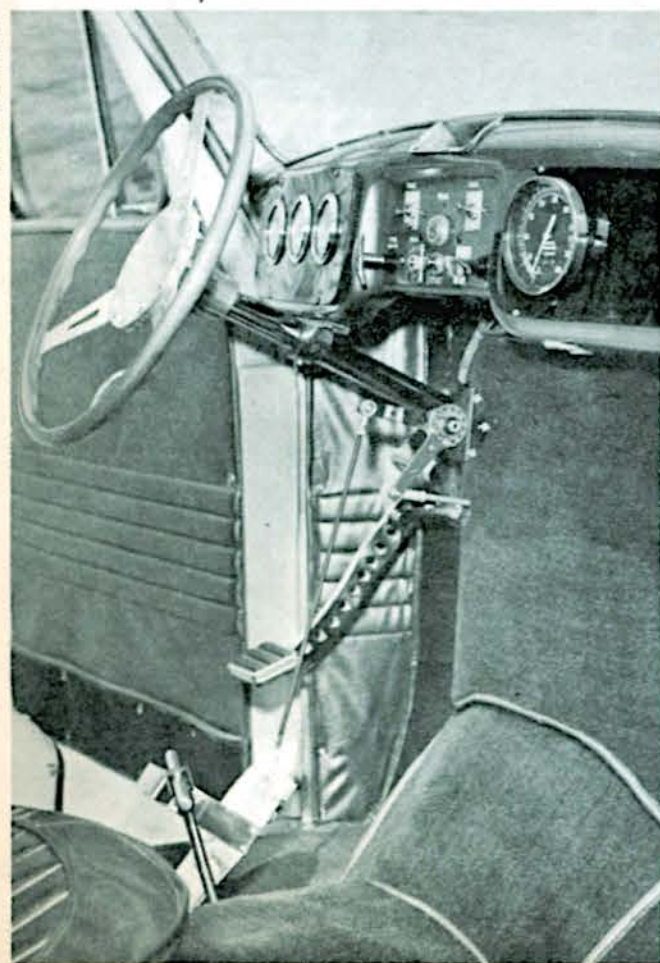
*Power is a '56 Chevy, bored .060 over and displacing 272 cubic inches. Scott injection tops off a Gimmy 4-71 2-port blower running a Cragar/Gilmer blower setup. Fuel passes through a Weiland O-ringed intake manifold and fired by Mallory Mag ignition setup with locked out advance. A Herbert cam is utilized.*

*The front end is really a work of art. A CAE track axle was installed backwards to improve handling; '48 Ford spindles and front brakes were incorporated. Shocks are Cure Ride, 90/10 front, 50/50 rear.*





Photos by Bob Hegge

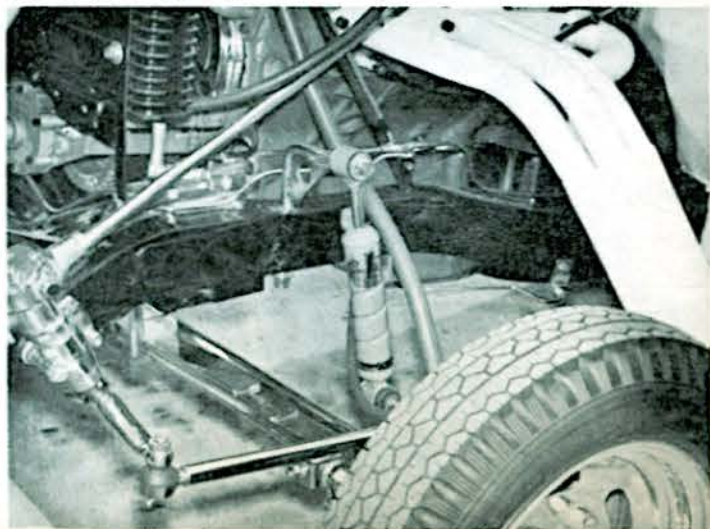


PHILADELPHIA, PENNSYLVANIA

Among its many features the car boasts an immaculate blue interior with four bucket seats, all stitched by F. Wolfe, a Hill-Zartman fiberglass front end which tilts forward, blue plexiglass windows.

The stock dash was modified to house a full array of Stewart-Warner instruments, in addition to a Sun tach. The steering wheel is a Coventry. The trunk is also upholstered, to match the interior.

One of the sharpest features of the car is the front end, complete with an abundance of chromed goodies. Jim has taken "Best in Show" awards and in '63 received a special award from Ford Motor Co. Best on the drag strip to date couples an 11-flat e.t., 128 mph.



**CAR CRAFT CUT-A-WAY**

Jim Hartner of Philadelphia, Pennsylvania, is the proud owner of this car, a 1950 English Austin converted to a B-Gas Supercharged drag/show machine. Powered by a blown Chevrolet engine, the car boasts many features designed by its owner, who did most of the work, himself.

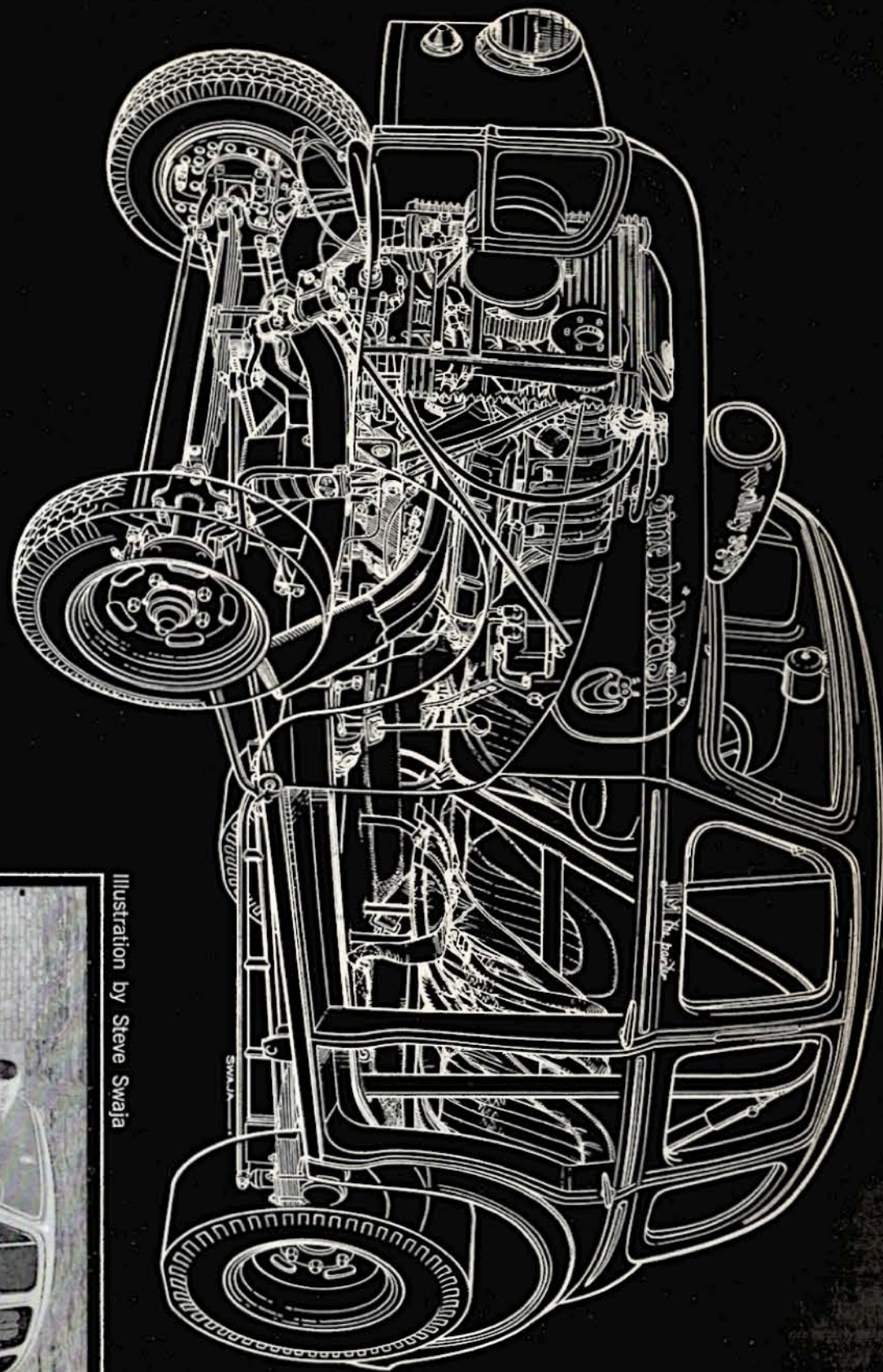
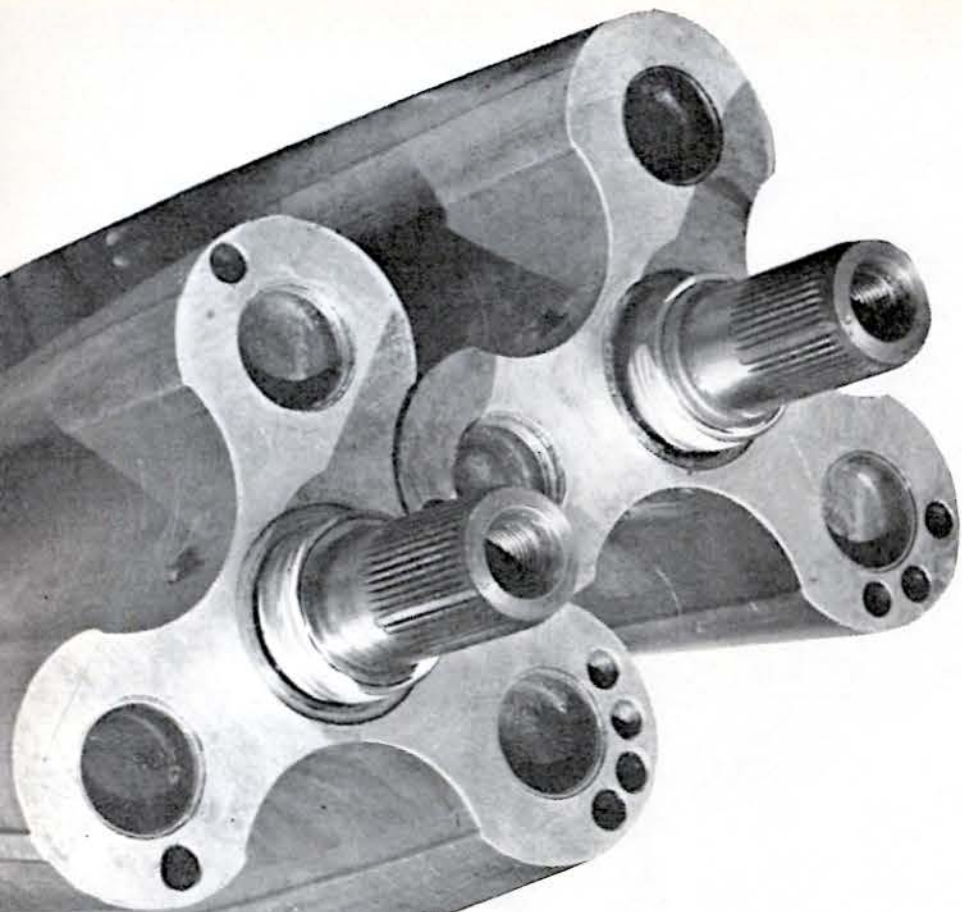


Illustration by Steve Swaja





## SUPERCHARGER SET-UP

Installing a blower can give the biggest horsepower gain of any single item. But if it isn't set up correctly, it can also cause the biggest headaches!

By Bud Lang

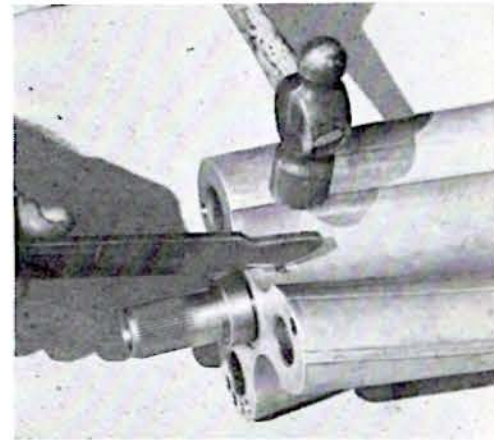
ANYTIME YOU GO into a GMC supercharger to replace bearings or seals, it is recommended that the unit be re-timed as it goes back together. Maintaining proper tolerances between the rotors, end plates and case are extremely important if the blower is to produce the performance expected of it with any degree of reliability. This especially pertains to a used blower that may have been picked up from a Gimmy dealer or another racer. If the unit is stock, it will most certainly have to be checked for timing.

The reason for this is that normally the clearance be-

tween the rotors in a stock supercharger is set at .016" and .002"-.006" on the inlet and outlet sides (depending upon which position the three-sided rotors are in when the clearances are checked). For drag race use, the larger clearance is too wide while the other is too shallow, making it possible for the rotors to touch one another and become galled as they expand from the heat of the compressing air. To acquire the correct information on checking and/or changing the timing in a GMC supercharger, a visit was paid to Roy Richter of Bell Auto Parts in Bell, California. In addition to manufacturing blower drive kits and manifolds, Bell also provides services for their customers which include timing the rotors in the supercharger and modifying case clearances where needed so the units can be used for competition purposes. The many pictures illustrating



A stock retaining pin,  $\frac{7}{8}$ " from the rotor end, is backed up another pin in a different channel. A  $\frac{1}{4}$ " hole is drilled, then reamed with a taper reamer until the pin will drop into the hole, allowing the head to protrude only  $\frac{1}{16}$  inch.



A couple of taps with a punch will "sink" the pin  $\frac{1}{8}$ " below surface, providing an interference fit. Rotor is then "staked" to retain pin.

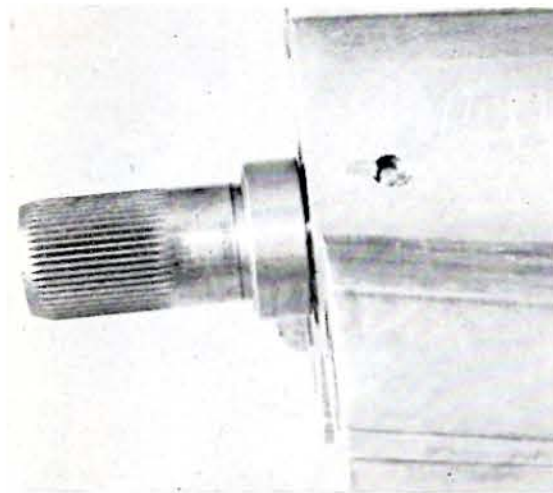
CAR CRAFT

this article were all taken at Bell's machine shop and cover just about every step involved in timing a blower.

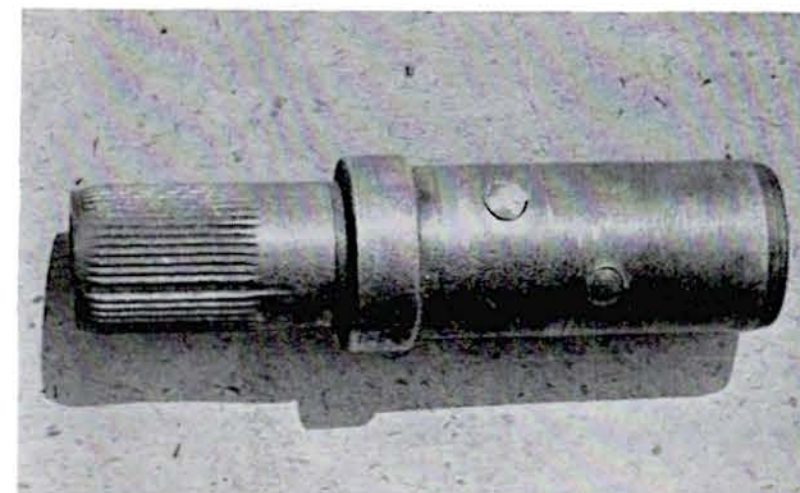
On occasion a rodder will pick up a used Gimmy blower featuring a right hand drive. This means that when the blower is set on top of the engine, the drive rotor will be on the right side, rather than on the left. Since you want

it to blow the air down, rather than up, something has to be changed. In this case the entire front bearing plate along with the two rotors can be removed in one section. Then the rear bearing plate can be removed and installed on the front of the case, prior to the case being turned end for end, so that this plate is again at the rear. Next

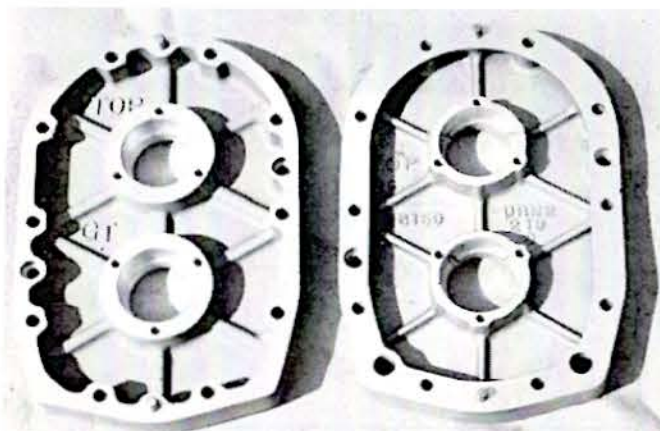
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After "staking" the rotor, this is what it looks like. A small half-round file should be employed next to remove any burrs produced by the staking operation.



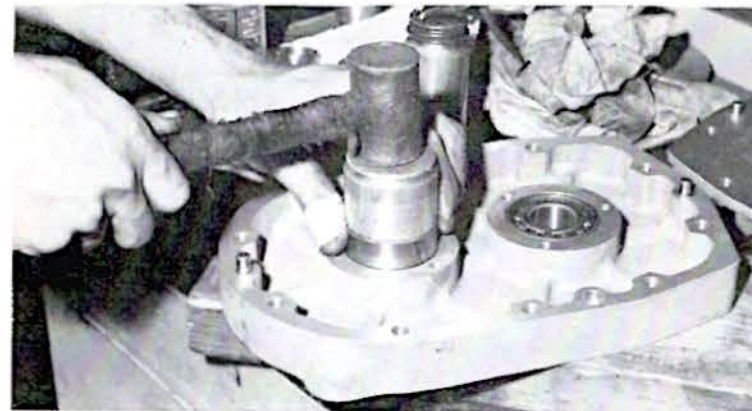
This rotor shaft from a GMC blower was double-pinned as described but the pins still sheared when backfiring occurred. However, Cragar's supercharger specialist, Don Ochampaugh, states more are saved than lost by this action.



On the right is a stock GMC bearing end plate, to its left a Cragar GT end plate. The difference lies in the fact that the stock bolt holes are .030" from the bore, the GT is a good  $\frac{1}{8}$ ".



At left is a stock leather-lined seal while on the right is a rubber replacement seal with metal sleeve. The sleeve slips onto the stock shaft, improving sealing, since it is likely worn.



Gasket sealer should be applied to the outside diameter of the bearing seals when they are installed in the end plates. If a press is not to be had, drive the bearings into the end plate cautiously with a piece of brass. The Cragar GT plate features larger diameter bearing bosses.




The bearing on the left is a roller type for the rear. Double row ball bearings, right, are used in front end plates. SAE 30 engine oil is recommended for lubrication.

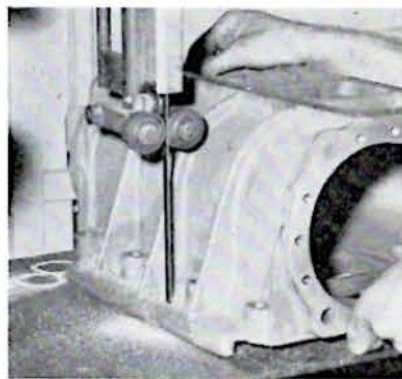
## SUPERCHARGER SET-UP

(continued)

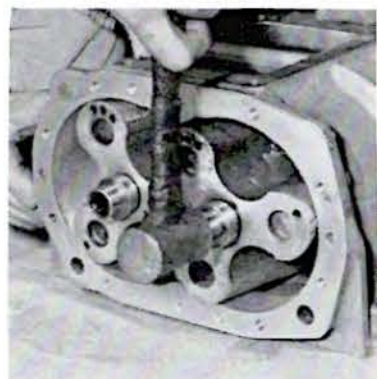
the front bearing plate with the rotors still attached can be rolled over so the drive rotor will be on the left when the unit is again installed in the case.

These changeovers in themselves don't require too much skill but it's a sure bet that what clearances were present are now drastically changed. In instances like this where

components are switched around it is especially important that everything be re-checked and adjusted. Just how this is performed is completely illustrated in the accompanying photo story. Along with demonstrating how to set the clearances (timing), we'll also show you how to double-pin the rotors and shafts as a secondary precaution against shearing. Rather than try to explain all of the steps in this text, we will present everything — in photo/caption sequence — as we proceed to avoid misinterpretation. 

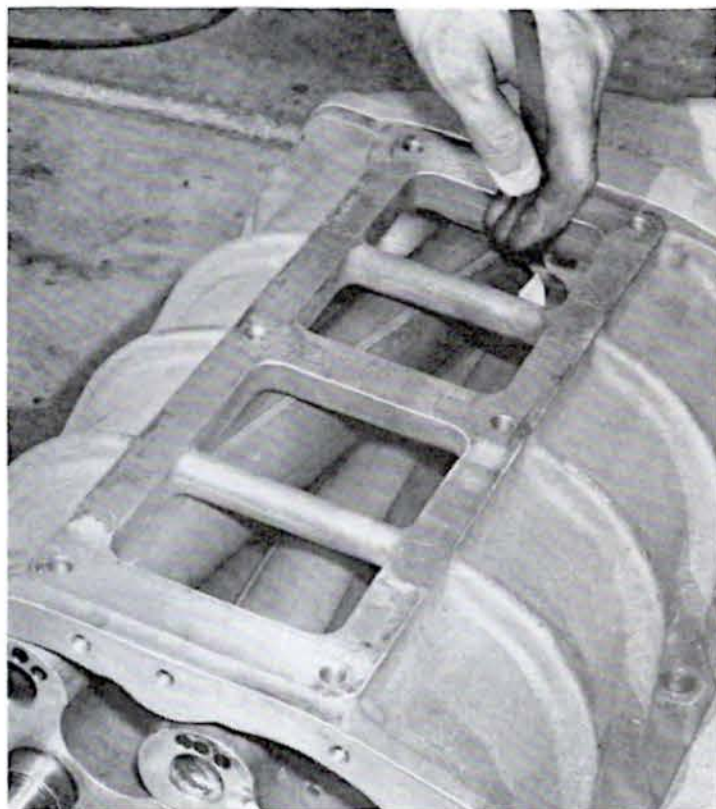


Stock GMC supercharger cases feature a small lip on their upper side (they mount on edge normally). With many manifolds, including the Cragar, sawing the lip off is a necessity. A hand saw will do the job very efficiently.

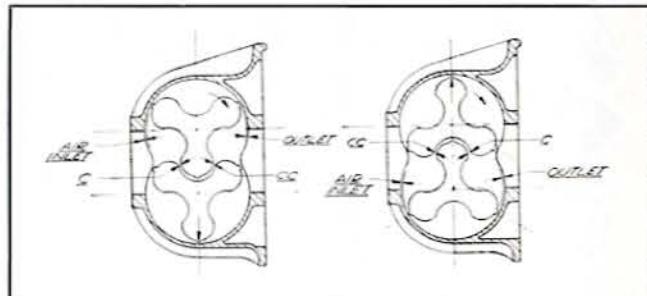


Right—Rotors are marked upper and lower, should be "stacked" with omitted serrations pointing toward the "lip" side of the blower case, when being installed. If rotors have end plugs, remove to release shavings from drilling.

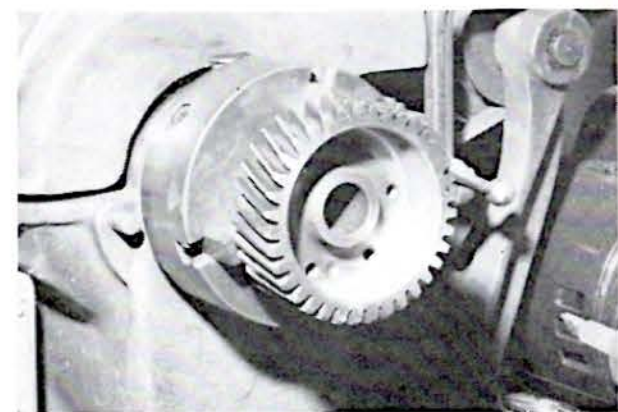
After cleaning out the blower case, install the front bearing cover plate. With the rotors positioned correctly, slip them into the case, through the seals, and into bearings. Drive rotors in gently (above) with brass mallet.



After rear bearing plate is on, take a trial check of end clearance between rotors and plates. The drive gears pull rotors towards the front, tightly. As the rotors expand from heat, they tend to move to rear of case. This is why double-row ball bearings are used up front, and roller bearings at the rear; to allow for rotor movement.

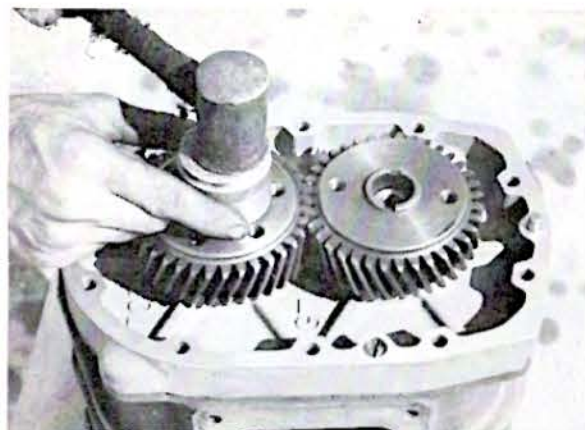


Cragar offers schematics giving specs for all GMC blowers. On the 6-71 they time them at a minimum .007" at front end, .014" minimum at rear, .012" at "C," and a .010" minimum at "CC." Minimum clearance on inlet side is .016", .004" at outlet.



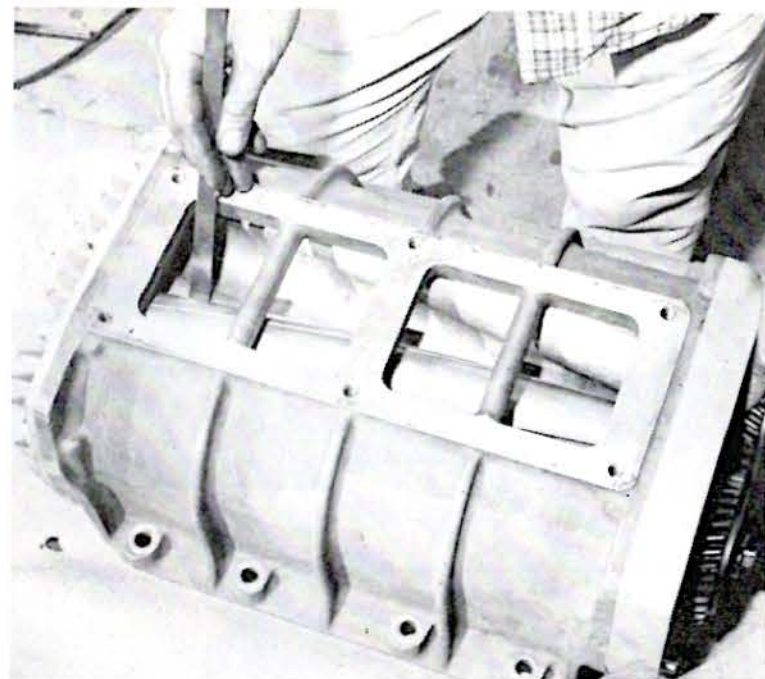
GT bearing plates feature larger circumference retainer bolt circles, so gears must be machined on the inside radius. Use steel gears with a 19° helix rather than cast iron gears of 45°. Steel is stronger and reduces rotor, bearing end load.

CAR CRAFT

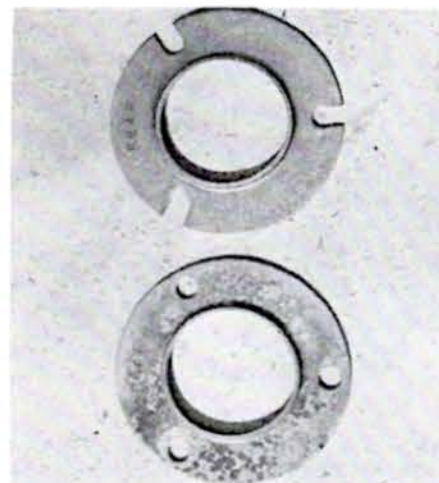


When gears are installed on rotor shafts, guarantee the omitted splines line up on both. Tap each gear lightly, alternating, as they go onto shafts due to gear helix. Gasket cement between end plates and case stops leaks.

With end plates and gears installed, check the rotor to rotor clearances (right) with a long feeler gauge. The "C" clearance on the air inlet side is being checked out here, with Cragar recommending it be held to a minimum of .012". Shims between gears and bearing will both pull gear away from case and rotate rotor, change clearances.



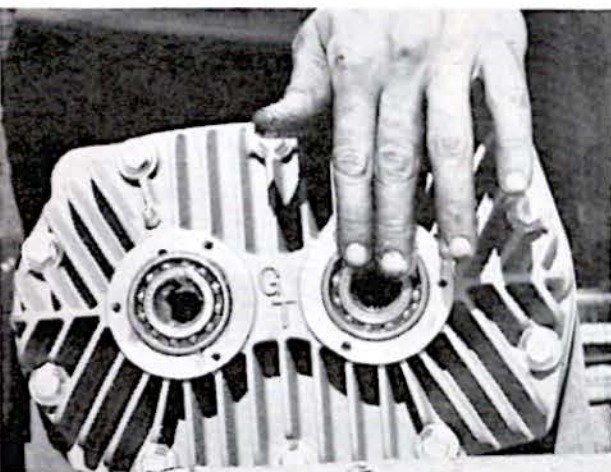
Cragar made up a couple of simple pullers to be used on the blowers. Gears are pulled a fraction of an inch at a time until both are off. Helix cut of teeth demand this action. Rag prevents rotor movement.



As mentioned earlier, the Cragar heavy-duty GT bearing plate features a larger bolt pattern. Use bearing retainers marked rear (they are stronger) and slot the holes as shown for larger circumference.

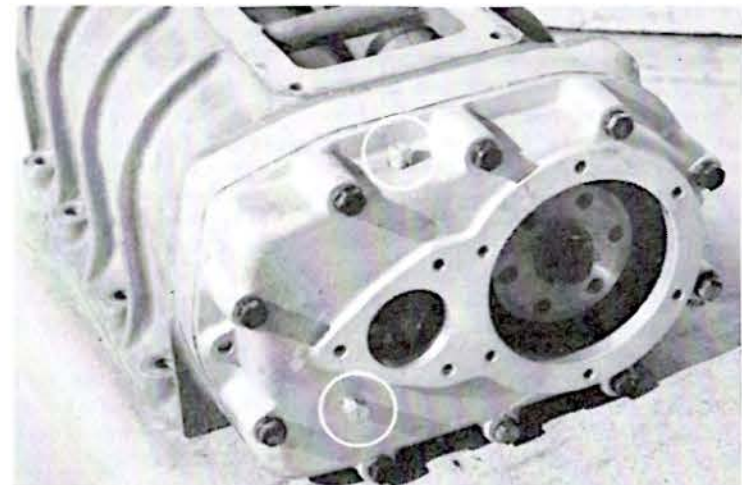


If rotor clearances are off, pull gears and slip one GMC gear shim under a gear, thus elevating it. Due to the helix cut of the gear teeth, that rotor will turn slightly as the gears seat, moving timing.



Don always applies a layer of bearing grease on the rear end plate bearings before capping them. This is a safety precaution since the chance is present the owner may forget to lube the two grease fittings prior to installation.

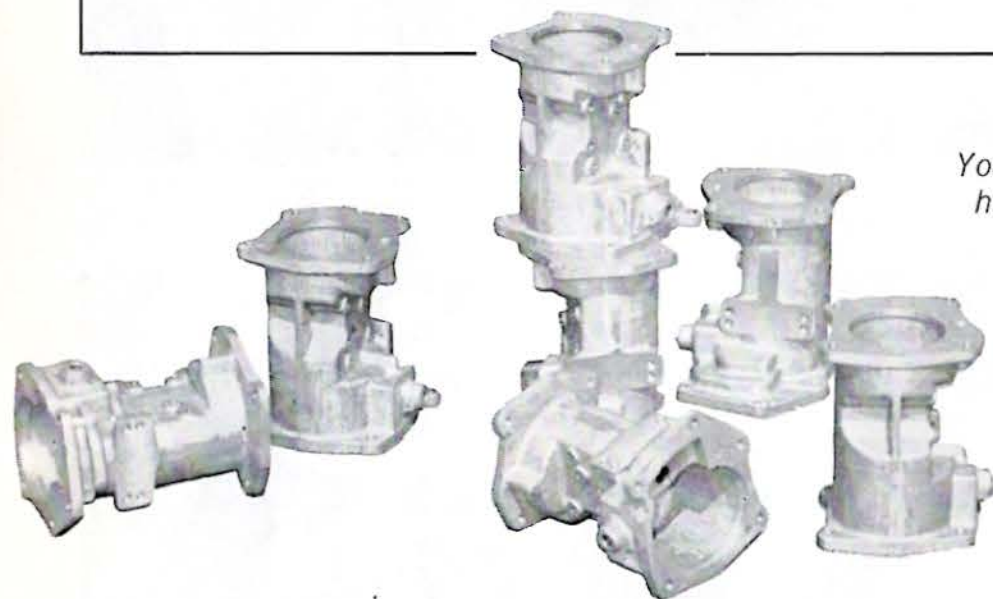
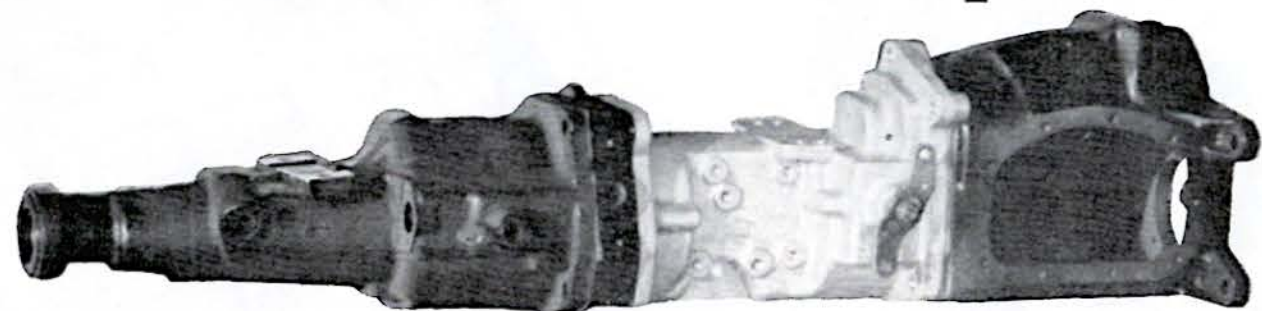
JULY 1965



After the rotors are properly timed, rear bearings are buttoned up, and the front cover is in place, Cragar delivers the blower to its owner. When front drive is in place, remove the two plugs (circled) and add SAE 30 engine oil through top 'til it reaches lower plug hole.

61

# Overdrive For 4-Speeds



At the top of the page is the assembled length of a 4-speed transmission complete with Tom Beatty overdrive. Heart of the unit is the special aluminum alloy casting.

You no longer have to put up with a high-winding engine while cruising with "drag" gearing. A newly developed unit adds a batch of versatility for all around use.

when friend Doane Spencer needed an overdrive for his new Ford four-speed. Good luck! Man, no such thing was to be found. So off to Beatty's machine shop located at 9611 Glenoaks, Sun Valley, California, where plans were laid. The initial Beatty o.d. units were made for racing, with no provision for a standard floor shifter. Well, the resulting call for identical units was so overwhelming that Tom just had to redesign the unit slightly for ordinary use.

As it stands, the Beatty overdrive adapter will fit any Borg-Warner T-10 4-speed transmission. This means Ford, Chevrolet, Studebaker and some Chrysler products.

The new model adapter housing (which replaces the stock four-speed tailshaft housing) is 5 inches longer than before, to allow shifter mounting. Stock Chevy or Ford shifter linkage may be bolted directly to the housing. Hurst linkage, however, must be spaced slightly outward from the housing for clearance.

The adapter kit will allow use of any 1949-1952 Lincoln overdrive unit (OD model R11) or 1957 and later heavy-duty overdrive unit (also OD model R11). Availability of the overdrive will probably be the determining factor as to which one is selected. In 1957-59,

cases, a healthy rear end gear is wanted, ranging all the way from 3.75-1 clear into the 5's (the latter for drag racing).

A dual-purpose street/strip stocker can get to be a very big headache in a very short time, though. Changing rear ends isn't exactly my idea of how to spend a Saturday afternoon. Fellows with three speed transmissions usually don't have to worry about the problem, since they can usually order an overdrive with their car. But, help for the four-speed.

And, as in the best Grade B movie where the cold-numbered rodder arrives with the serum (fuel) just in the nick of time (thanks to his faithful old deuce coupe), help is at hand. It's in the form of Tom Beatty, long time Bonneville and dry lake fan.

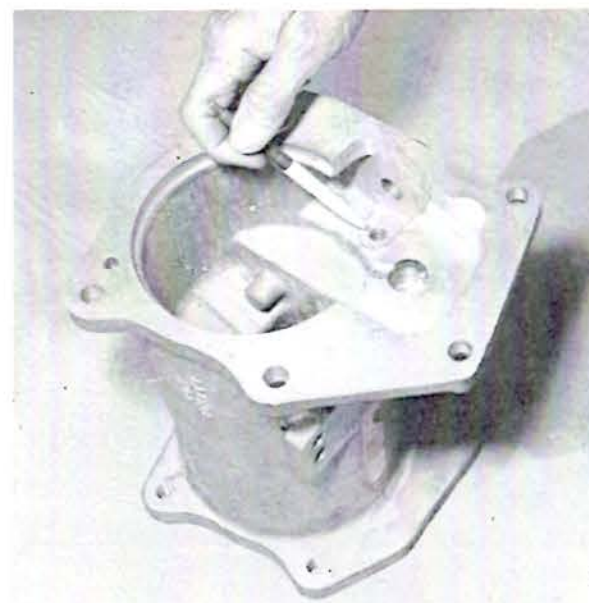
The whole thing started last year

**BY TEX SMITH** □ Now, you can have your cake and eat it too! That is, if you're a drag racer, owner of a pickup-camper, trailer tower, or general automotive performance enthusiast. If you don't fit into one of these categories, you're reading the wrong book anyway.

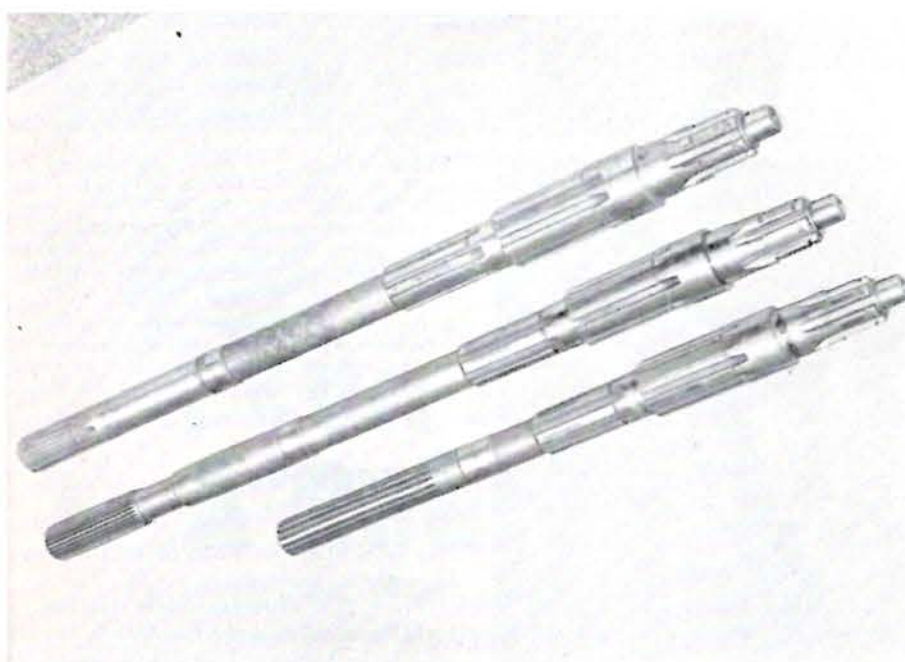
Popularized by drag strip adaptation, the four-speed transmission is now considered a main-line option on the American automobile. Especially on the more popular models. But, the buyer generally has some specific use in mind when he orders such an option, even if it is just for better vehicle control around town. But, the car being a mass of compromises under any condition, the purchaser usually has to give up something desirable to gain something else equally desirable. Such is the case of the drag racer, trailer tower, around town driver, etc. In these



The R-11 overdrive unit uses a special adapter plate, at left, when used with most transmissions. The special tailshaft is about 25½ inches.



Above — Beatty housing replaces 4-speed tailshaft housing, makes provision for reverse gear. Pencil points to spring load recess for reverse shifting mechanism.



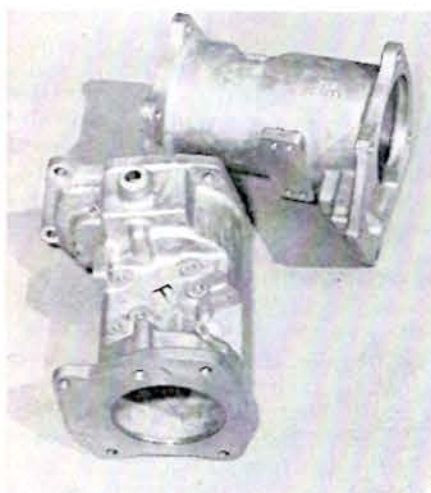
Left — Three tailshafts common to the 4-speed. At top is short Chevy unit, which cannot be used for overdrive application, center is Ford item. The stock Ford 4-speed tailshaft is reworked by Beatty to fit the Borg-Warner overdrive input shaft.

Mercury reversed the direction of the speedometer cable, so these particular cars must use the '57-'59 Mercury overdrive.

A great deal of Beatty's time is spent in making up a new tailshaft for the kit. A stock Ford T-10 tailshaft (Chevy shafts are too short) is remanufactured to fit the overdrive unit. This consists of shortening, building-up, and resplining the tailshaft. You can save yourself several dollars by sending along a Ford tailshaft core with your order, but keep in mind that it must be Ford. The Chevy, Fairlane and Cobra are all too short to be rebuilt.

The gears from the four-speed stock tailshaft housing are placed in the Beatty aluminum housing, new tailshaft installed, and then the overdrive bolted to the rear. Completely assembled, the unit measures 39 inches overall, which is quite a bit longer than the stock transmission. Some frame modifications are necessary for final assembly if the car has a box X-frame (like the '58 and later Chevys). In such a case a small bit of the X-frame "tunnel" may be trimmed away for clearance and the overdrive housing shoved back in the opening. Sting Rays need some slight modification to the floor tunnel for clearance, also. The Avanti needs sim-

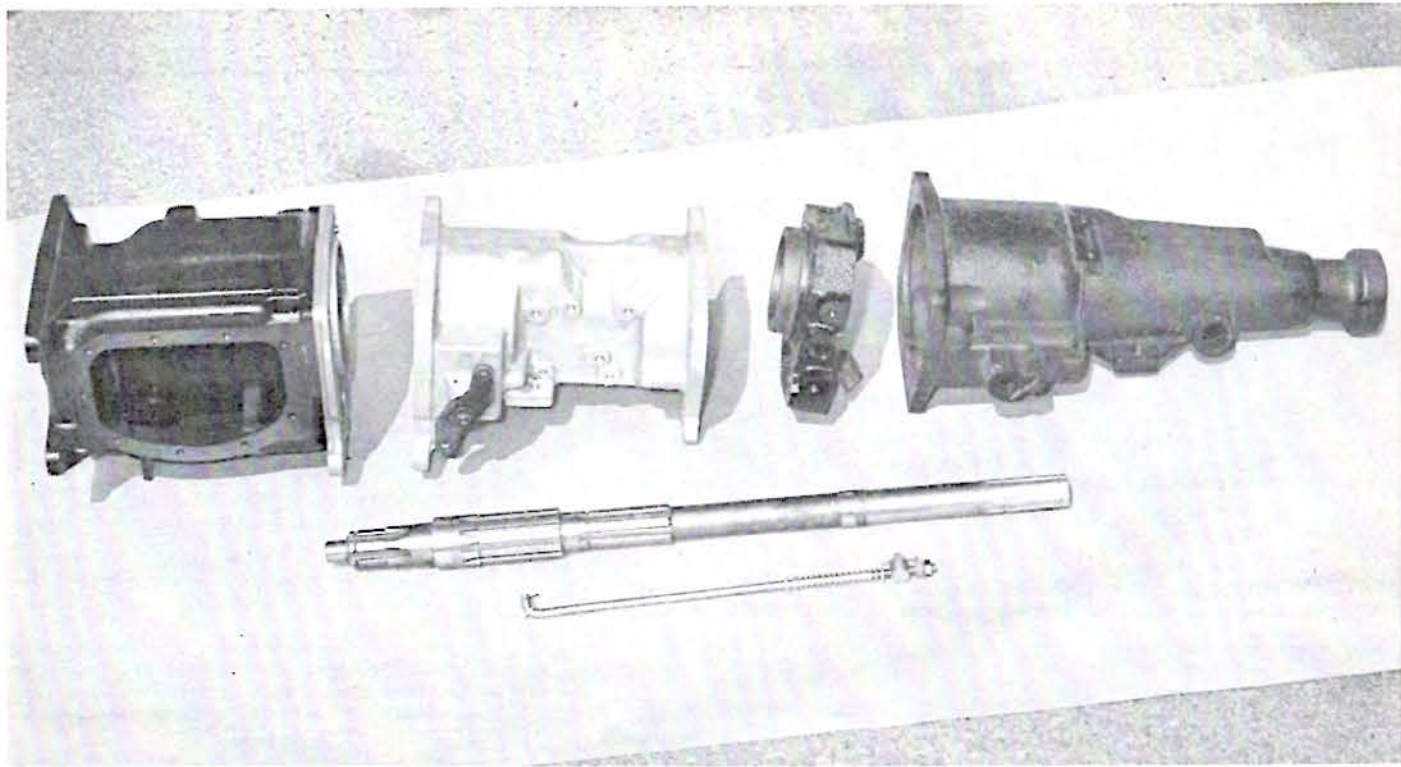
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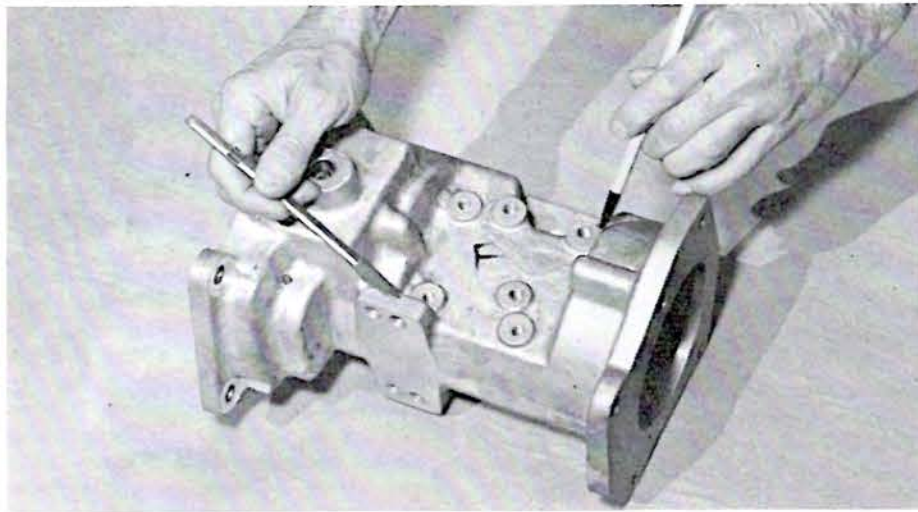
Special housings are cast to take stock Ford or Chevy floor linkages. If a Hurst shifter is to be used, the unit must be spaced away from housing for clearance.



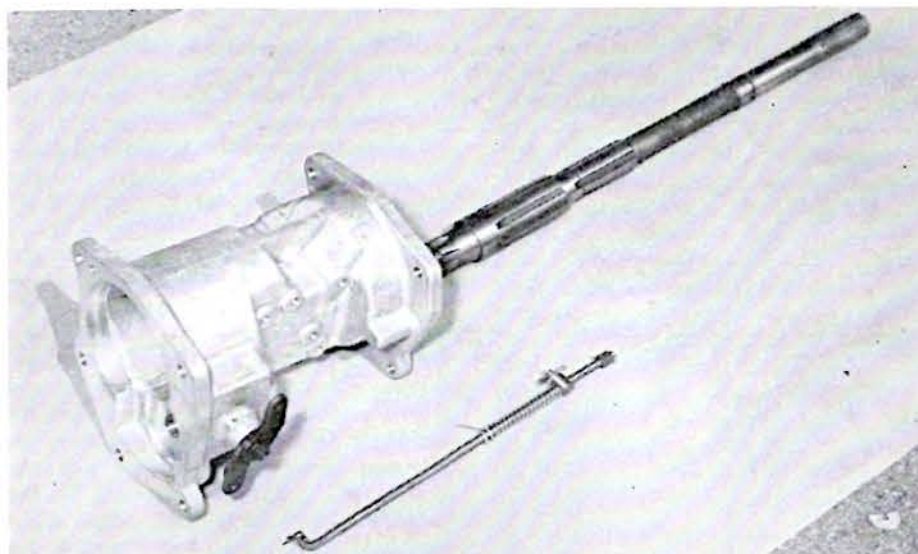
Stock Ford 4-speed tailshaft, top, has different splines than needed, is about 2 inches too long. Include Ford tailshaft when ordering to avoid core charge.



Above—These are the parts needed to build an overdrive for the 4-speed. Main gear housing, left, Beatty reverse gear housing, intermediate adapter and overdrive gear housing. Reworked tailshaft and overdrive linkage complete package.



Left—Pointers indicate area of possible interference on Ford shifter mechanism. If the shifter does touch here, a small amount of grinding can safely be done.



Reverse gear engagement overdrive lockout is accomplished by spring loaded rod connected to reverse gear bell crank. This bell crank must be made up by the user.

### OVERDRIVE

(continued)

ilar work, but the Ford creates a drop-in with no hassles.

The R11 overdrive unit is electric, so location of the operation switch is left up to the builder. Usual practice is to put the switch somewhere on the shifting linkage, much like a foreign car.

The advantages of such a transmission are obvious, and the cost is quite reasonable. The entire kit costs less than \$200 outright, with a \$35 core charge for the Ford tailshaft. A typical Lincoln overdrive unit goes from \$10 to \$50, depending upon how good a horse trader you are. The automobile drive-shaft must be modified to use the overdrive U-joint flange, which can be done by virtually any machine shop for an average of \$10.

Beatty also has a special overdrive adaptation for truck four-speeds. Price for these units varies depending upon truck model, but provides an excellent second wind for pickup-camper combinations, etc. For information on an overdrive unit for any particular car, Tom Beatty is the man who should know.

CAR CRAFT

### I Take Your ARMS

... and mould them into a powerful triphammers! Look at these arms I gave George Urban



Just look at the arms on this Atlas Champion! There's a pair of arms that can handle any kind of trouble. Let me show you how to build up YOUR arms... quickly and easily, with my famous tested method.

### I Take Your SHOULDERS

... and mould them into a powerful bridge of strength! See what I did for Adnan Zabadeh



"Dynamic-Tension" helped this man, a pupil from the Middle East, to develop his shoulder muscles to their full handsome power! Let me show you how to get full, rugged strength from YOUR shoulders!

### I Take Your BACK

... and give it solid, tiger-man power! Look at the back of my pupil Pete Morgan



Here's a pupil who won one of my Silver Cups - Pete Morgan of Washington. Wouldn't YOU like to have a powerful back like this? Let "Dynamic-Tension" improve your back - in just 15 minutes a day.

### I Take Your CHEST

... and build it into deep muscled proportions! Here's the chest I gave Joseph Seldin



Joe Seldin's marvelous development is like a Greek god's all over - but especially his chest. Let me show YOU how to get a chest that shouts "Power" and red-blooded "Health!"

# Yes FROM HEAD TO TOE I Can Make You A Real He-Man

Just Give Me 15 Minutes a Day - and I'll Give You the Kind of Body You've Always Wanted!

GIVE me a skinny, second-rate body - and I'll show you how to cram it so full of bulging new muscle that your friends will grow bug-eyed! ... I'll wake up that sleeping energy of yours and make it hum like a high-powered motor! Man you'll feel and look different! You'll begin to LIVE!

"Dynamic-Tension." That's the secret! That's how I changed myself from a scrawny 97-pound weakling to winner of the title, "World's Most Perfectly Developed Man."

#### "Dynamic-Tension" Does It!

**ARE YOU** Skinny, weak, run down? Always tired? Nervous? Timid? Fat? Flabby? What to do about it is told in my FREE Book.

Using "Dynamic-Tension" only 15 minutes a day, in the privacy of your own room you quickly begin to put on muscle, increase your chest size, broaden your back, fill out your arms and legs. This easy, NATURAL method can make you a finer specimen of

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## DETROIT-BASED ICCA OFFERS NEW CLUB PROGRAMS

### National Organization Plans More Activity

ICCA's national headquarters move from Glendale, Calif., to Birmingham, Mich., a suburb of Detroit, points to an exciting future for the hundreds of member clubs throughout the U.S., so says ICCA executive director Don J. Beebe.

The primary benefit of the relocation is that, by having its national headquarters in a more central geographic location, the best interest of all member clubs in the U.S. can better be served. Because there is so much automobile interest on the west coast, ICCA national field director, LeRoy Tex Smith, will continue to operate from his California office.

Beebe cited another important reason for the relocation to Detroit. "It is appropriate that ICCA's national headquarters be centered in the home of the automobile — the city where our members' cars are styled, engineered, tested and built. Being here will bring ICCA much closer to the automobile industry, thus providing many new opportunities and programs for the club members."

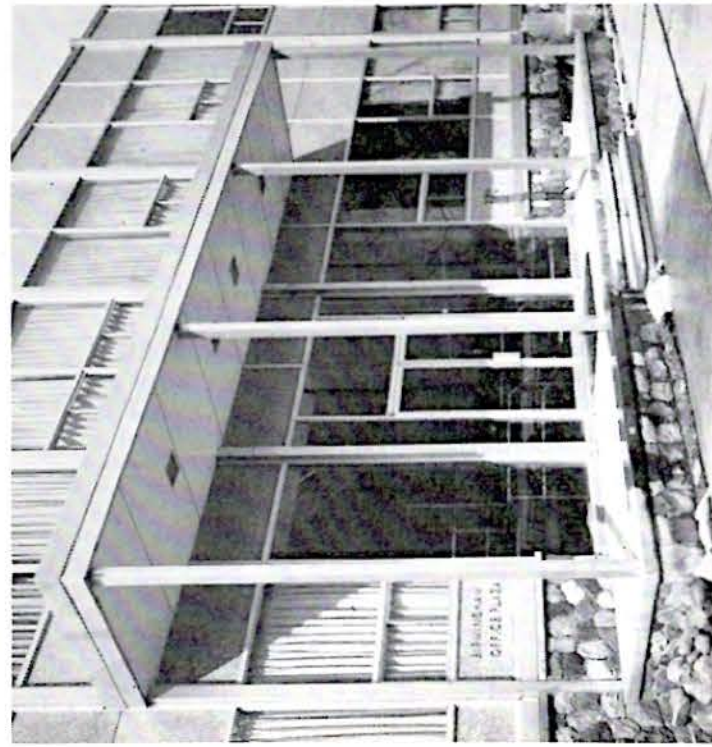
"We know the industry is vitally interested in young people and the growing market they represent as present and future buyers. So we're hopeful that ICCA will gain many advantages in its new location."

ICCA members will get an idea of the association's "new look" with the arrival of the first Detroit issue of International DRIVE LINE, official club publication, which has been

completely re-designed to include the latest automotive news and "behind-the-scenes" stories.

Another indication of what's ahead: ICCA is announcing a new associate sponsorship program, now available to automotive companies and suppliers. The program will per-

mit ICCA to more satisfactorily serve its membership, as associate sponsors join in supporting national and international youth activities. ICCA's national headquarters can be contacted by writing to: ICCA, 770 South Adams Road, Birmingham, Michigan 48011.



New home for International Car Club Association promises to offer even better services to membership. The staff has host of activities on track.



## INTERNATIONAL CAR CLUB ASSOCIATION

**CLUB CHATTER . . .** It was "car wash day" for the **Impalas**, Malta, Ill., on a cold Saturday in February; but their 8 a.m. to 5 p.m. effort netted the club about \$40.  Another money-earning club, the **Elegants**, Mount Joy, Pa., along with their Jaycee sponsors, held a chicken Bar-B-Q. Tickets were sold door-to-door, then the group "headed for the pits" (barbecue, that is) to add about \$60 to the club coffers.  **Igniters Car Club**, Libby, Montana, had a busy winter, what with planning construction of a new club house, an ice skating party for members and dates, and a visit to the Spokane, Washington, Auto Show.  **Gear-Lords** of Auburn, Washington, received



### YOUR CAR & THE LAW

By Robert Gottlieb, Attorney At Law

A 16-year-old boy and an 84-year-old woman collided at an intersection. A substantial suit was instituted for injuries, and the attorney for the boy proposed an unusual rule. He argued that a minor who violates a statute is not held to the same standard of conduct as an adult. In other words, "...that a minor is only required to exercise the same degree of care which is ordinarily exercised by minors of like age, mental capacity and experience."

Not so, said the appeals court in a very recent case. If the minor chooses to drive an automobile, he is bound by the same rules as an adult. Quoting directly from the decision, "To permit minors a more lenient standard is unrealistic, contrary to expressed legislative policy and inimical to the public safety. It should be further noted that in a criminal prosecution for violating a traffic law, a person under 14

is legally considered to be capable of committing a criminal act and is therefore subject to punishment the same as an adult. The inescapable conclusion from this very late case is that minor drivers of automobiles are in the same boat as adults. They receive no favorable consideration where a violation of law occurs and are just as accountable as adults for violations of law or negligence. When an injury or death results, the minor is held to the same standards as an adult.

The right to drive a car is universally held to be a privilege. The privilege for the minor is the same as the privilege for an adult. If you abuse the privilege, you lose your rights, regardless of age. The law is now clear that if you are negligent in exercising your privilege, the sanctions imposed on a minor are the same as those imposed on an adult.

The Utah chapter has new helmsmen: Eric Acter, Chairman; Dick

### ALL CAR CLUBS

and associations are invited to submit news of activities and events for possible publication in Club Corner. Photographs, if of good reproduction quality, may also be submitted. Send to:

**CLUB CORNER**  
Car Craft Magazine  
5959 Hollywood Blvd.  
Los Angeles, Calif. 90028

### From The Chapters

The Intermountain Area has led the Chapter news last couple of weeks with reports of complete attendance at the Eastern Idaho Chapter where the Guys and Dolls of Idaho Falls are currently ahead in the points race. The chapter is arranging a car bash and the Duststers of Aberdeen are holding a special film night. The Rajah's have completed the chapter's new patch design, and the Vagabonds closed the meeting with coffee and goodies.

The Utah chapter has new helmsmen: Eric Acter, Chairman; Dick

## New Film From Ford

Ford Motor Company has released a new motion picture — "Magic Skyway" — highlighting attractions of the New York World's Fair which range from exotic foods and souvenirs to exhibits of commerce, industry and foreign lands.

The newest of Ford's film offerings now is available for showings to schools, service clubs and civic groups. The feature of the film is a ride through the "Magic Skyway" at the Ford Pavilion. Viewers of the film, like visitors to the fair, are transported to the world as it was thousands of years ago when huge reptiles ruled the earth. The "Magic Skyway" traces the slow evolution of life and the emergence of man.

Primitive man is shown struggling for survival and recording his progress on cave walls. He traps animals to provide food and clothing for his family and discovers fire and its many uses. A new day is born with the development of the wheel which widened man's horizons and eased his burdens. The wheel races man through the ages to the world of today — the era of mass transportation — and to the threshold of tomorrow with a view of a "space city" as the ride through Ford's "Magic Skyway" comes to a close.

The 12-minute 16 mm color film is available without charge from Ford film libraries in Dearborn, New York City and Oakland, Calif. "Magic Skyway" is one of more than 30 Ford film offerings.

Stock, Vice Chairman; Mickey Ellis, Membership; and Howard Schaeffling, Parliamentarian. The chapter will be unable to make the yearly trek to Las Vegas' Henderson drag strip. Some dirty badlands meany put a shopping center on the strip!

Beverly Johnson, from the Detroit headquarters, is currently arranging meetings with Chapters in the eastern part of the U.S. and Canada for some sparkling new activities coming this summer.

trophy honors as "most active car club in Pacific Northwest." Awards banquet was at the Tacoma Hotel, hosted by the Northwest Car Club Council, which selected the **Gearlords** for the honor.  Pass the bicarb! Members of the **39's & 40's**, New Orleans, La., ate in style recently, to the tune of 100 pounds of crayfish! The seafood dinner was held at president **Cy Helmer's** home.  **Rod Benders**, Omaha, Nebr., recently collected \$300 for the March of Dimes, and are also canvassing for the Heart Fund.  **Mystics Car Club**, Victoria, B.C., Canada, held a road run and passed out "minus points" to any members violating traffic laws along the way.  **Stags Rod & Custom Club**, Ogden, Utah, never miss a chance to think cars. At a bowling party recently awards were given for "Top Eliminator," "Low E.T." (high game), and "Top Speed" (high series). Even picked a "Best Cheerleader."  **Don Everson** of the **Esquires Car Club**, Minot, N. Dak., won a trophy as top eliminator in the club's first snow-drags.  Members of the **Misfires Car Club**, Shelbyville, Ind., safety checked every car before their big road rally. Winning member keeps the traveling trophy for one month, but it's his permanently if he wins it three months in a row.  **Ram Inductors**, La Grange, Ill., entered their club display in many shows in the Chicago area this winter.  **Praetorian Car Club**, Fremont, Nebr., participated in an obstacle course race, weaving in and out of a tire-strewn, L-shaped pattern. **Ken Rahts**, in a '57 Ford, took top honors.  Although we heard about it too late to give publicity, **Gearlords Car Club** of Auburn, Wash., sold ad space in the programs for the Seattle Rodster Show. The club received 20 percent, ranging from a full-page ad for \$100 to a one-eight page ad for \$20. Other clubs might want to follow suit and get into the auto show program ad selling business! Much fun for the **Gearlords** too, when they held a scavenger hunt. Each team received \$5 for gas expenses and headed out looking for 21 items, which included a live clam, a duck egg, a snowball, a kerosene lantern and a set of men's garters (no women's?)

### INTERNATIONAL CAR CLUB ASSOCIATION

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Name of Club \_\_\_\_\_

# YAMAHA ROTARY JET 80



Photos by Pat Brollier

*A good looking, good running 2-stroke — and no mixing of gas and oil!*

**BY DON EVANS** ☐ Yamaha is not a company to sit back and rest on its laurels. And in the few short years that it has been firmly established in this country, it has built up some pretty substantial laurels to rest on if it so desired. A couple of these are its impressive racing victories and the fact that in four years it has become the second fastest-selling line of sport-cycles in the United States. But even with these successes, this active company keeps charging forward to find new ways to improve and refine its line of motorcycles.

Undoubtedly the biggest breakthrough they have made is the development and introduction of the Yamaha Injection System. This does away with the sometimes bothersome chore of mixing oil with gas for the 2-stroke engine. The oil is contained in a separate tank and is automatically mixed with the pure gas that comes from the gas tank. There is a plunger-type pump that is driven off the main shaft so that oil

is metered as it's needed. In other words, at idle the gas-oil mixture may be 200:1 with the ratio increasing until at full throttle it would be 20:1. This cuts down on exhaust smoking, gives less spark plug trouble due to oil fouling and helps prolong engine life due to a more efficient mixture.

### ENGINE — TRANSMISSION

In addition to the injection system, some of the other vital statistics of the Yamaha YG 1-K are a bore and stroke of 1.88x1.68 inches to come up with the 80cc size. Compression ratio is 6.8:1 while maximum horsepower is rated at 8 @ 7000 rpm. The rotary valve engine uses a kick starter with a flywheel magneto to supply the spark. A choke lever has been conveniently placed on the left handlebar to facilitate easy starting under the coldest conditions.

The multiple-disc clutch runs in oil and is operated in the conventional manner by a left-hand lever. Yamaha's 4-speed, constant mesh transmission,

operated by the left foot, has a ball-lock device that allows shifting of gears at all speeds without clashing or grinding.

### EQUIPMENT

The strong and rigid frame is constructed of 12mm pressed steel plate and teams up with telescopic front forks and a swinging arm, shock controlled rear suspension to provide a secure feeling ride. The right hand operated front brake and the right foot operated rear brake are both internal expanding types, are said to be both dust and water-proof. The factory has supplied the machine with fold down pegs for a passenger, which is pretty comfortable riding due to the double size seat. Front and rear tires are both 2.50 x 17", the front using a ribbed tread and the rear a pavement pattern.

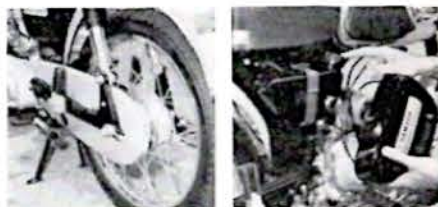
Another nice feature is that the bike comes with both a center and side stand.

### DIMENSIONS

The YG 1-K is 71" long, 25" wide and stands 38" high. Wheelbase is 45". The gas tank will take 1.72 gallons and the oil tank holds .3 gallon. Ridden reason-



Profile of the Yamaha 80 offers clean, functional styling. Double seat, foot peg positioning and slender tank make for comfortable riding on those long cruises.



Shown above left is one of the reasons the bike and rider stay so clean. Chain is completely enclosed so oil isn't thrown about. Also note the fold-down foot pegs for the rear passenger. Above right is the separate oil tank for engine lubrication. It's enclosed behind glass cover.



Speedometer and headlight reside in single nacelle. Entire unit tilts for easy headlight adjustment by loosening bolts.



Completely enclosed air cleaner is in tube on top of engine. Horn can be immediately beneath the gasoline tank.

ably, Yamaha 80 will get up to 180 mpg. For this size machine it goes well, with the top speed being up around the 60 mph mark. Weight is a respectable 161 pounds.

### RIDER IMPRESSIONS

Turn the key on, the gas on, flip the choke lever, give the starter an easy kick and it springs to life. However, don't try to go anywhere for a few minutes. As is the case with some of the other small 2-strokes, it takes a while for the engine to warm up to the point where you can charge off. But once warmed up, you're in for a treat. The way this thing handles makes cruising a real pleasure. Don't be afraid to keep the revs up. While low end torque is adequate, this machine is at its best and comes on strong when you've the rpm going for you. And don't worry about taking a passenger with you. I hauled one all over the Hollywood hills, both up and down, and never experienced any brake or clutch fade. It takes a pretty fair incline in its stride, even with two people aboard. Running around in the traffic proved to be a breeze with this cat-quick bike.

However, there's one point where I think Yamaha could make a little improvement. Their shift lever is designed for toe and heel operation, which is fine, except it doesn't seem to work out too well the way a human foot bends. You push down with your toe for acceleration (this part works fine) and, supposedly, push down with your heel for back-shifting. But with your foot on the peg, the heel can't be bent far enough back to down-shift. You can move your foot and down-shift with your toe quite easily, but this gets difficult when you have a passenger on the rear. It looks as if a slight bending of the rear part of the lever to a more upward position would alleviate this problem.

To put it bluntly, this is a wild little machine! It's very well engineered, rides like a dream and styling is in the most modern trend. If you're shopping around for some lightweight transportation, take the Yamaha for a spin!

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# TOOL TIPS

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THESE SIMPLE TOOLS



IF YOU ARE considering power filing as a method of abrading or smoothing metal, you have a wide choice of rotary files and burs to choose from in the Nicholson File Company line. Both files and burs are widely used in metal pattern making, breaking and chamfering corners, removing burs and fins, for elongating holes and slots and getting into hard to get at places. In using rotary files and ground burs instead of abrasive stones and grindstone tips, the filer has the advantage of greater speed and the knowledge that his tools will not clog or grime up, shatter or break.

Hand Cut Rotary Files are actually cut by hand. Because the teeth are "broken up," in contrast to the "unbroken flutes" of the ground bur, they are better fitted for work on tough and dense metal like steel. Ground burs on the other hand feature longer cutting edges and are more efficient on non-ferrous metals such as aluminum or brass. Their ground teeth free themselves readily of chips.

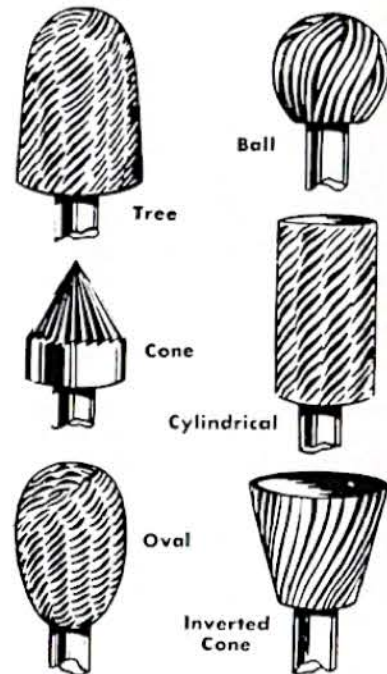
When power filing, move the file or bur at an even rate and pressure to avoid "hills and dales" which will show up if an unsteady pressure is applied. A short grip on the file shank will give you more accurate control, too. The speed at which the bur can be driven depends to a great extent on the size of the bur. The smaller the bur, the faster the speed. In addition to being available in coarse, medium, and fine cuts, the Nicholson rotary files and burs also are available in a great number of shapes for just about any type of job you can imagine. Shank sizes are 1/4" and 1/8", so will fit any hand grinder or drill, drill press or lathe.



A hand-cut cylindrical rotary file is ideal for smoothing edges of flame-cut parts on that car. A Black & Decker 1/4" Holgun drill spins file at 2500 rpm's.



When dressing down an aluminum weld or reshaping soft, non-ferrous metals, a ground bur is the best choice since it will not clog. Maintain even movement.



This illustration depicts only a few shapes available from Nicholson File Co. Files have many hand-cut teeth in contrast to the "unbroken" bur flutes.

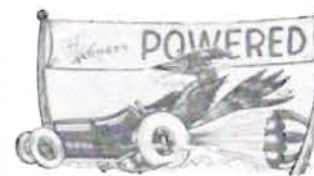
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# BENCH RACING

with *Tony Nancy*

Old innovations made new in drag racing

**T**HERE HAVE BEEN many major factors leading to the big speeds and low e.t.s that are being turned by today's drag racer. Lighter chassis construction, new rubber compounds, super traction asphalt mixtures, have all helped to reach the 200 mph mark.

But one other factor in this stage is the controversial zoom header. We could very easily say that it has truly come into its own on today's drag racing scene. A quick glance through a pit area will show that nine out of ten dragsters are equipped with the so-called zoom headers. These zoom headers vary in length and tubing diameter, but all have the same general angle which is pointed upward and forms a 60° to 90° angle with the ground surface. You will generally find that this varies a little with the engine location in relation to the leading edge of the rear tires. Since the zoom header has come into its own there have been tremendous increases in both speed and elapsed time. And along with this have come the various theories as to why they really work.

Some believe that the tremendous pressure of the exhaust gases coming from the header tips, acts as a sweeper on the slicks, cleaning off dirt and particles of rubber that tend to roll up due to the softness of the slick, caused by spinning on the drag strip. Others believe that exhaust gases that are forced through the headers exert a tremendous force downward on the rear half of the car, thus causing better traction. Another theory developed is that the zoomie creates a streamlining effect over the rear half of the car, causing a vacuum directly in front of the slicks that partially removes the wind resistance caused by the revolving mass of the tire.

Needless to say, no matter what theory you pick, the fact that is most visible to everyone, is that the zoomie moves the smoke off the leading edge of the tire, creating more visibility for the driver, and eliminating a hazardous condition. The most common size of zoom header for the average fueler is .060 wall steel tubing, usually 2 1/2" in diameter and 20" in length. The average steel tubing used by a gasser is 2" in diameter and .035 wall and 20" in length. But engine displacement and make determines the exact length and

diameter of tubing used. So by the above mentioned theories you can be your own judge, and determine which style, shape, length and contour is best for your particular application. Many leading manufacturers of header flanges and kits have gone into the making of zoom kits. And any interested party can find these available through leading speed shops.

### PRESSURE RELIEF VALVE

Many small compact valves are available through local aircraft supply and surplus distributors. Of all these valves, the one that seems to merit a great deal of value for the water system of a normal dragster is the Parker Valve. This spring loaded check valve can be adjusted from 6 to 26 lbs. of pressure by the same method as an oil pump pressure relief spring by either removing the above mentioned spring and applying shorter length for less pressure or longer length for more pressure, depending upon the amount desired. It can be installed into any overflow line easily, and when done so on a sealed water system, such as a normal dragster uses, it then takes the place of the normally used passenger car radiator cap. This little unit 3/8" in diameter and 2" in length, could help control the boiling point of your engine.

It has become quite popular on all types of gas burning cars that don't use a radiator, more so, than on the fuel cars. This is solely due to the extreme high water temperatures that seem to be predominant in this type of drag machine. If you've tried and checked everything else to help overcome your problem of overheating water, then this little unit could be extremely helpful to you.

By the title of this article "Old Innovations Made New in Drag Racing," I have tried to get the point across that other industries such as industrial aircraft, and commercial, have made in the years past many products that are available through both surplus and new distributors that can be easily adapted to today's drag machine, and are quality articles that will do their job perfectly.

Throughout the years, the "do-it-yourselfer," using his own ideas, has truly advanced the sport to what it is today.

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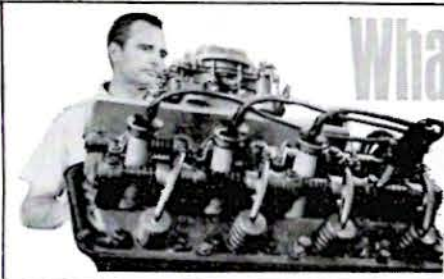
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## What's Your Problem?

by **DON FRANCISCO**

### PARTS THAT WILL WORK ARE AVAILABLE

Dear Don:

I have a 1931 Ford with a 1956 Chevrolet V8 engine, 1939 Ford transmission, and 1948 Ford rear end. I tried using a transmission adapter which did not use a Powerglide housing, and the 10-inch Ford clutch pressure plate I used did not have enough clearance when the clutch was disengaged. This was probably because I was using a thick aluminum flywheel with an adapter that was made to be used with a stock flywheel.

I have now changed to an adapter that uses a Powerglide housing. I have retained the aluminum flywheel, with a Chevy diaphragm pressure plate and Ford 10-inch disc and throwout bearing. However, when I push on the clutch pedal I hear a sound that sounds like a binding of the throwout bearing on the transmission shaft (possibly because of too long a throw with the Chevy diaphragm pressure plate).

I'm still not sure I have the right combination but I hope the sound I hear with the second setup is nothing to worry about. I would appreciate any information you can provide about the clutch setups used with a Chevy-early Ford installation.

—Michael J. Nicholas  
Fredonia, New York

I'm confused. I don't know of any Chevy V8 engine to early Ford transmission adapters that use a Powerglide bellhousing; however, that doesn't mean that such adapters aren't available. One type of adapter I know of is an aluminum casting that bolts to the cylinder block and has a flange to which the transmission case bolts. Another is a flat steel plate that bolts to the cylinder block and to which is bolted a Ford 8RT-6392 stamped-steel bellhousing. The Ford transmission is then bolted to the Ford bellhousing. Recommended for use with these adapters are a stock Chevy flywheel and a Ford 10-inch clutch pressure plate and disc assembly. The clutch is released by a Ford throwout bearing and lever.

As I haven't seen an installation such as you described, I don't know what would be causing the sound you hear when you release your clutch. But there is little doubt that the sound indicates something is wrong. I would recommend you obtain a transmission adapter that eliminates the Chevy bellhousing and install a clutch of the type recommended by the adapter's manufacturer.

### SAVES MUCH, MUCH WORK

Dear Don:

While reading your November issue I noticed that you advised Eddie Blake that the only way to stop an oil leak past the upper rear main bearing oil seal in his '56 Ford was to remove the crankshaft and replace the seal. Such a leak can be stopped by simply unbolting the rear main bearing cap and sliding a piece of throttle wire between the seal and the block. The wire should be inserted far enough for its opposite end to be seen, pulled back far enough to enable it to be cut to the correct length, and then pushed back into the groove.

A homemade shim like this will do the

job and there is also a kit on the market now for installing pieces of wire in this manner. This might save Eddie and a lot of other Ford owners quite a bit of work.

—Stan Perry  
Marshalltown, Iowa

Since receiving Stan's letter I have seen the wire installation kit he mentions. It consists of lengths of wire for insertion between seals and the cylinder block and an installation tool. The tool is nothing more than a length of round steel stock with a hole through its center which acts as a guide for the wire while it is being pushed into place. This method of stopping leaks through the upper half of main bearings seals appears to be entirely practical unless the seal is damaged. In extreme cases there doesn't seem to be any reason for not using more than one piece of wire to get the required pressure between a seal and its crankshaft.

### STEERING GEOMETRY IS CRITICAL

Dear Don:

I've been planning a rod for some time now. I like the front end setup described in the How to Build a Hot Rod, Part 2, in the December issue of Car Craft, but I have one problem I would like you to help me solve.

I plan to set-up the front end the same way illustrated in the article except that I want to use a dropped axle. After taking some measurements I realized that I had a problem in that the tie rod would hit the spring. I've seen quite a few rods with the spindles reversed, which puts the tie rod in front of the axle, but a friend of mine told me that if I did this I'd lose the come-back steering. He said my iron would steer like a truck.

I've never studied an early Ford spindle to see why this would be so but my guess is that the center of the spindle itself is slightly behind the center of the kingpin. The other thing I noticed is that the kingpins aren't quite perpendicular to the road but are slightly canted with their tops closer together than their bottoms but I don't see how this could be the cause of the hard steering, as the angle would not be changed by reversing the spindles.

Would you please tell me if my friend's information holds water, and if so, what modifications I would need to make in order to make the steering reasonably easy. If my first assumption is correct, could I weld up the inside of the kingpin bosses on the spindles and drill them off center to place the kingpin hole on the other side of the spindle's center line?

Also, would you please define a "suicide" front end. I'm sure you'll stop a lot of arguments around here.

—John E. Holmes, Jr.  
Southboro, Mass.

When early Ford spindles are reversed on an axle, the same kingpin inclination, which is the angle the wheels describe with the road surface, is retained because the spindle angle in relation to the kingpin angle remains the same. Also, caster angle, which is the forward or backward tilt of the kingpins and the angle that affects "come-back" steering, remains the same because it, too,

is determined by the axle. The only steering geometry angle that is changed is toe-out in turns. The angles of the arms for the tie rod, which are an integral part of the spindles, is such that the outer wheel turns less than the inner wheel when the car is traveling through a turn to compensate for the greater distance it must travel. Reversing the spindles destroys this angularity with the result that the wheels wouldn't be correctly aligned in turns. This could result in dangerous handling characteristics and excessive tire wear. To correct this condition, the arms would have to be bent to move their ends farther from each other. Computing the amount to bend each arm could be a problem and then there is the possibility that some part of the wheel and brake assembly might not allow the arms to be bent far enough.

Your best solution is to stay away from the dropped axle and lower the main part of the frame to the desired height with modifications to the frame itself rather than to the axle.

Just how the suicide type of front suspension construction got its name is a mystery to me but the term is used to describe a suspension in which a transverse leaf spring, such as that used in Ford chassis up to and including 1948, is secured to a perch that extends forward from the frame's front cross-member. Perhaps the flimsy appearance of suspension systems of this type is what gave them their name; however, such a system, when properly engineered and constructed, is as safe as any other that uses a single transverse spring.

### STOVEBOLTS FOREVER AND EVER

Dear Don:

I have a Chevrolet six-cylinder, model 1954. I would like some information on how to "soup" its engine and where I can buy good parts.

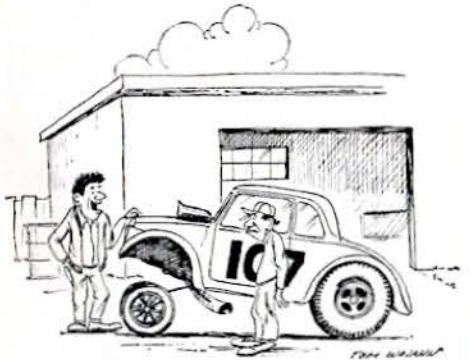
I would like to convert the engine for both the quarter-mile and street driving. I want to have something that few others have, and that is a fast-running "half dozen."

If you have any books on speed tuning, etc., for Chevy-six engines, please let me know.

—James F. Hunt  
Lumberton, No. Carolina

Strangely enough, in this day of V8s of all sizes, the Chevy-six, sometimes better known as the "stovebolt," still thrives in some parts of the country. Several companies can supply literature and parts for these simple, straight-forward engines and one of the best of these is Frank McGurk Engineering in Gardena, Calif. McGurk's street address is 13226 Halldale Avenue.

McGurk has a booklet on the stovebolt six, available for fifty cents, that fully describes many conversion procedures for better performance and that also lists the special parts his company can supply for it.



"I think we've eliminated your suspension problems."

JULY 1965

CAR CRAFT

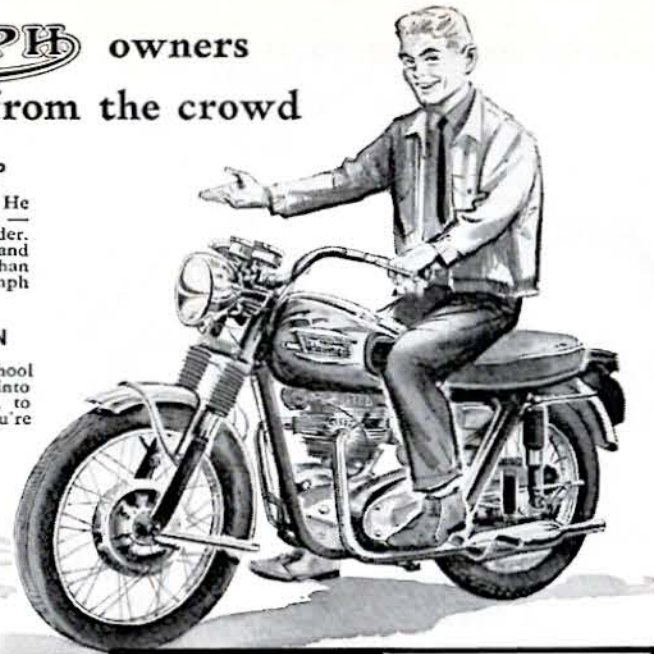
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See pages 18-21

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# THE WINNERS!



IT DOESN'T SEEM possible that there could be over 20,000 miles between Toledo, Ohio, and Washington, D.C., but that's just about the length of the 1964-65 International Championship (ICAS) Trail which leads through 20 major cities throughout the United States and Canada before coming to a close in the Nation's Capitol this spring. Again this season, over 4,000 entrants took part in the ICAS circuit which is sanctioned annually by the International Show Car Association and sponsored

By **Bill Moeller**  
*Climaxing a 20-show circuit by Promotions, Inc., Merv Colver walks off with a brand new Mustang—closely followed by the other "big prize" winners.*

by leading car clubs in each city. A total of nearly 700,000 spectators attended the International Championship events. Following his constructive goals, Bob Larivee of Promotions, Inc., producer

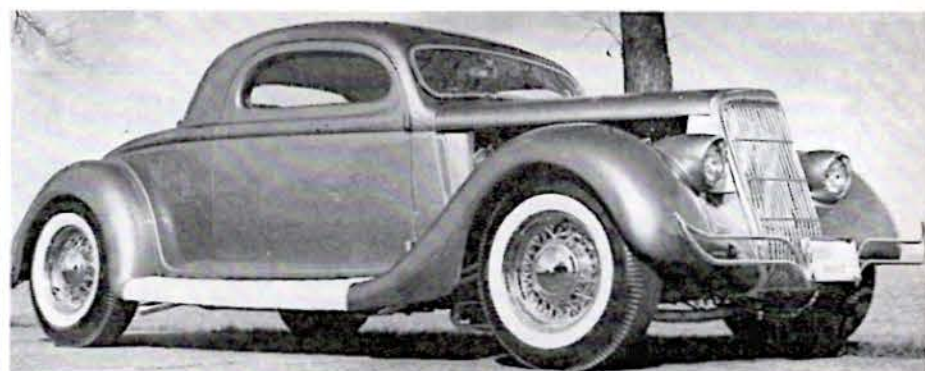


Photo at top of page shows Merv Colver (left) receiving the keys to his new Mustang from Bob Larivee, President of Promotions, Inc. Above is Merv's "Little Beaver."

## FINAL POINT STANDINGS

PLACE	NAME	ENTRY	AWARDS
1st	Merv Colver	1935 Ford	1965 Mustang
2nd	Ron Gerstner	1934 Ford	\$590.00 & Stewart-Warner Performance Pack, Bell Fire Suit
3rd	Bob Iden	1931 Ford	\$350.00 & Stewart-Warner Performance Pack, Bell Helmet
4th	Murphy Smilardo	1963 Corvette	\$60.00 & S-W Performance Pack, Cragar S/S Wheels
5th	Bob Reynolds	1963 Chev	\$100.00 & Hurst Shifter
6th	A. A. Magenheimer	1953 Ford	\$40.00 & Hurst Shifter
7th	Jim Tayford	Harley Bike	\$130.00 & Hurst Shifter
8th	Buzzy Payne	Triumph Bike	\$120.00 & Hurst Shifter
9th	Bud Pearce	1931 Ford	\$40.00 & Hurst Shifter
10th	Ron Charest	1957 Ford	\$80.00 & Hurst Shifter

CAR CRAFT

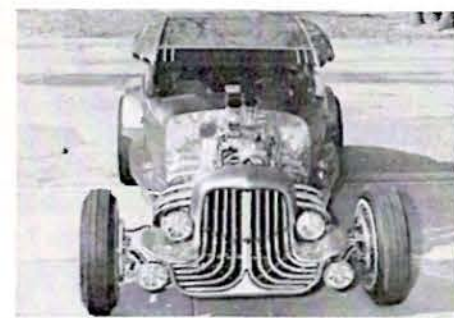
of the entire circuit, returned well over \$150,000.00 to the hot rod sport in the form of prizes, tow money, and trophies given during the year. Progressive manufacturers taking part in the 5th Annual International Championship include Alemite CD-2, Bell Auto Parts, Cragar, Ford Motor Co., Hurst, Levernier's Custom Crest, Revell, Stewart-Warner, P. A. Sturtevant, and Tester.

To qualify for the 5th Annual Championship, an entry must have participated in at least four shows, and to afford each an equal opportunity, only his four best showings were counted toward the point system. Ties were broken by number of events entered, and some car owners participated in as many as a dozen shows in an effort to improve their position in the standings.

Competition continued at a hot and heavy pace throughout the season. The Dallas Autorama, for example, drew entries from as far as Toronto, Ontario, while the Milwaukee, Wisconsin, Show attracted one from Corpus Christi, Texas.

Ford cars still lead in popularity with the builders as six of the top ten and twelve of the top twenty were FoMoCo products. The true International aspect of the Championship is evidenced by the twelve different states represented by the top twenty cars.

Prizes won by the leaders of the International Championship include a new Mustang from Promotions, shifters from Hurst, Cragar S/S wheels, a helmet and fire suit from Bell Auto Parts, and award cases of Alemite CD-2. Levernier's Custom Crest, P. A. Sturtevant and Stewart-Warner also sponsored trophies during the season.



Bob Iden's radically restyled '31 Ford coupe finished a tight third in the circuit. This shows how tough the competition is.



Bud Pearce's immaculate Ford pickup was highest of trucks by finishing ninth on the circuit. It's consistent class winner.

JULY 1965

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(continued from page 25) 4-2-2

*"It just looks mean sittin' there..."*

The fuel system of this engine has been specifically designed to operate well under strong acceleration. For instance, the fuel line from tank to carb has been increased from 5/16-inch to 3/8-inch. A special high-dome fuel pump is now standard equipment, along with the tried and true Rochester 4GC carb. The latter is now equipped with horizontal primary main metering jets to keep the gas from washing away from them during "stand on it" time.

These are some of the basic things we found before starting the actual driving part of the mechanical inspection. Opinion is a difficult thing to assess, especially when it comes to a car. But as Tex pointed out to us, all cars are built to do a job. Consequently, they must be tested upon that basis. But we couldn't help but feel that the 4-4-2 is one of the best all around performance cars we've had the pleasure to drive. And between the four of us, that's a lot of miles.

Our particular car did not have enough miles on it for some all-out

**COMING:**

**STORMERS IN THE SOUTH**  
 A cotton pickin' bash in Tennessee at NHRA's big SPRINGNATIONALS! Full Report . . . NEXT MONTH in Car Craft

charges at the clocks, but we did have a chance to stab-and-steer it off the line. It's healthy, very healthy. By checking with friends who own similar cars, and checking out the drag mags, average quarter-mile performance in the low 14-second, 105 mph range are common. Tex tells us of one little 330 c.i. Cutlass on the west coast turning speeds near 110 mph in the high 12's.

So, for the 1320-foot sprint, we'd expect that cheater slicks, some Air Lifts properly inflated in the rear coils, and headers would really turn this bomb on.

The Milan drag site has lots of room, with plenty of pavement and varying surface dirt roads adjacent. This makes for super boss testing. Handling of the 4-4-2 is excellent, even deceptive. What with the absence of road and wind noise, you're liable to get into a turn much over your head. Even so, the car seems to just take a set and tool around the

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1965

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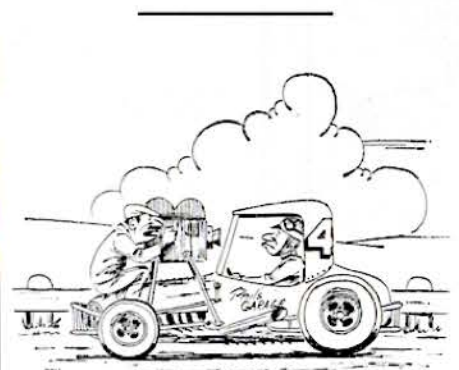
corner. The power brakes and steering make control ultra-simple, with throttle response perfect for drift control, etc. If we were to do much work with such a car, we'd personally replace the tires with something a little more sticky, especially for hard acceleration.

Our comment on the general overall styling is straight. It's a conservative design neither outstanding or atrocious. It's pleasant, both inside and out, and would undoubtedly be able to carry the personal touch of an enthusiast very well. We'd probably go for some special wheels, maybe some of the chromed Astro units, and certainly add headers to the engine. A dual quad set-up would also be our "druthers," to help out way up on the top end at the digs. With the stock quad, we picked up a handsome 16 mpg which can't be sneezed at from such a big engine. This would probably drop ever so slightly, however, if lots of high speed freeway work were done.

We drove into Ann Arbor and tool around town to get an idea of how the machine handled in traffic. The driver always has absolute control, which is a pleasant departure from some of the recently introduced bombs. We made it over by the local college to check out the chicks. No, really, this is one of the things Tex required us to do. We had to talk with some girls and get their general reaction to the car (which was "groovy," the word in itself explaining about how much a girl knows about cars).

During all this time, we had the four of us in and out of the car dozens of times. Everybody got to drive and try little pet things. Comfort was excellent for four, five would be crowding things a bit. While driving around we had a chance to sort of evaluate the production control used on the car and found it to be better than normal. The paint job was exceptionally well done and all the chrome trim fit where it was supposed to.

But we can't leave everything on such a high note. Please, please Mr. Oldsmobile, make the glove box door hinge on the bottom—and add places to set cokes!!!



"Now, go out there and drive just as if I weren't even here."

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See pages 18-21

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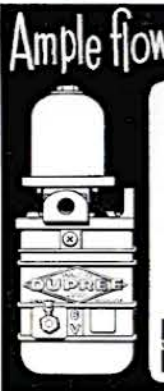


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# dipstick

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FRED BOATMAN



WELL THE BIG DAY IS FINALLY HERE!

YEAH DADDY! SHE'S A COOL LOOKIN' HAULER, TOO!

'BET ALL THE BIG HOT DOGS'LL BE EYEBALLIN' THIS BABY!

OH HHHH, THOSE WORDS, HOT DOGS, MAKES ME HUNGRY.

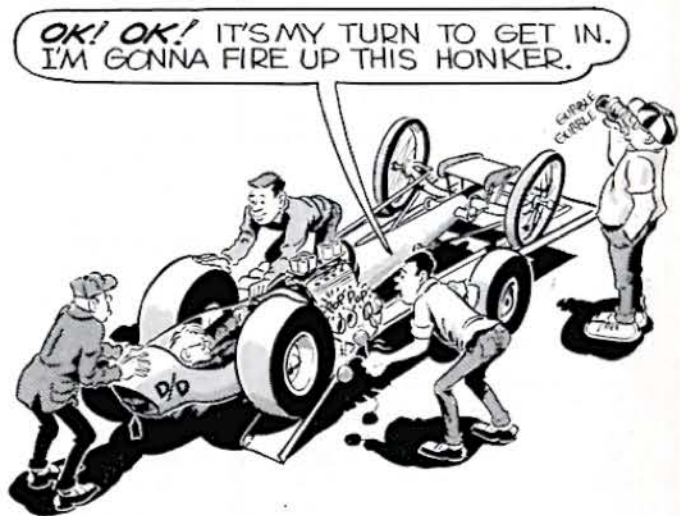


HEY DIP BABY! I WANNA SIT IN 'ER WHEN WE PUSH IT OFF THE TRAILER.

OK! OK! COMON SIGN IN.

HEY WATCH IT! YOU'RE GETTIN' MUSTARD ALL OVER THE SIGN IN SHEET

PIT PASS \$200



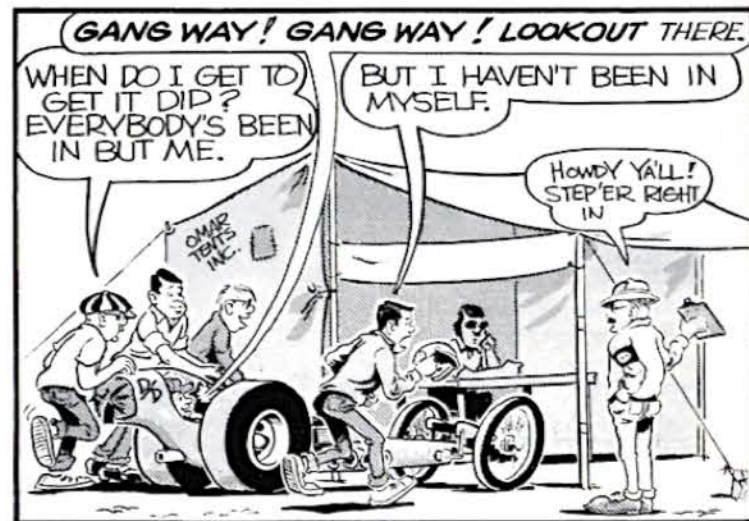
OK! OK! IT'S MY TURN TO GET IN. I'M GONNA FIRE UP THIS HONKER.



HEY DIP, IT'S MY TURN. CAN I SIT IN 'ER AND STEER WHEN WE PUSH TO INSPECTION? CAN I DIP? CAN I, HUH?

'CHEESE! OK. DON'T PESTER ME.

RUMP RUMP



GANGS WAY! GANGS WAY! LOOKOUT THERE.

WHEN DO I GET TO GET IT DIP? EVERYBODY'S BEEN IN BUT ME.

BUT I HAVEN'T BEEN IN MYSELF.

HOWDY Y'ALL! STEP'ER RIGHT IN

OH MY TONGUE!



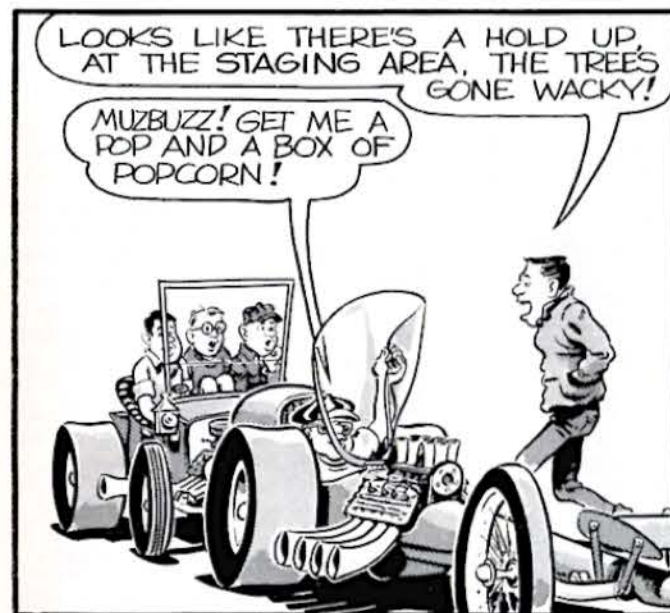
ALL RIGHT MUMBLES, YOU CAN SIT IN 'ER WHILE WE WAIT IN LINE 'TILL IT'S OUR TURN TO RUN.

UFFFF! A BIT SNUG

Y'ALL CHECK OUT JUST FINE, BOYS

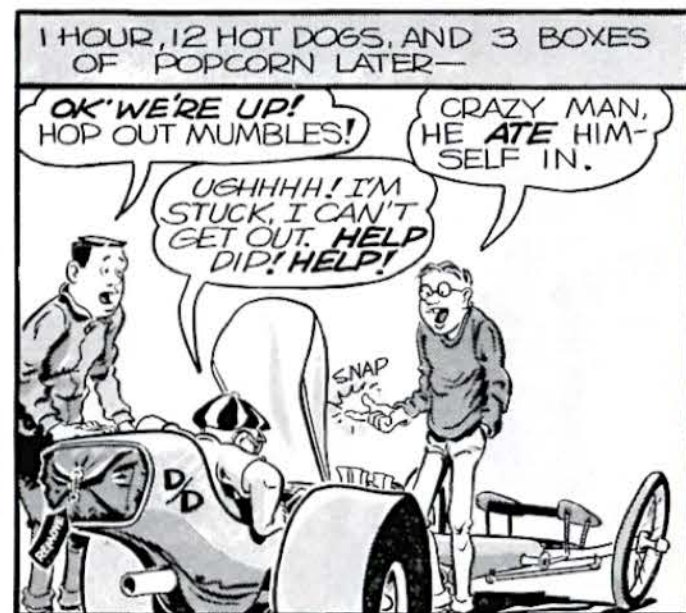


HEY MAN! THIS IS GREAT! JUST LIKE THE BIG TIME. SOMEBODY GET ME A HOT DOG.



LOOKS LIKE THERE'S A HOLD UP, AT THE STAGING AREA, THE TREE'S GONE WACKY!

MUZZBUZZ! GET ME A POP AND A BOX OF POPCORN!



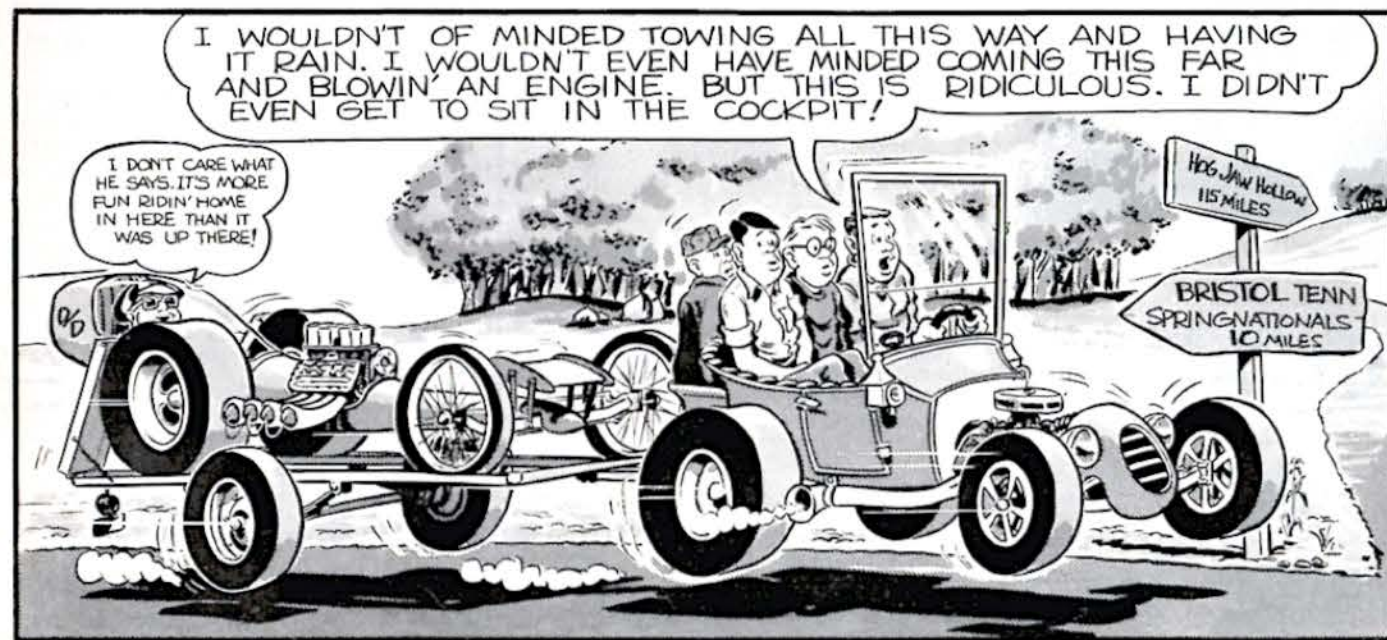
1 HOUR, 12 HOT DOGS, AND 3 BOXES OF POPCORN LATER—

OK! WE'RE UP! HOP OUT MUMBLES!

CRAZY MAN, HE ATE HIMSELF IN.

USHHHH! I'M STUCK, I CAN'T GET OUT. HELP DIP! HELP!

SNAP



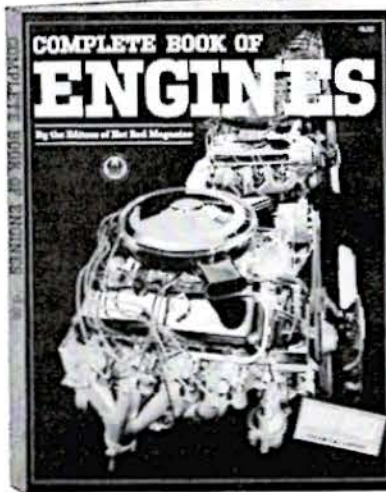
I WOULDN'T OF MINDED TOWING ALL THIS WAY AND HAVING IT RAIN. I WOULDN'T EVEN HAVE MINDED COMING THIS FAR AND BLOWIN' AN ENGINE. BUT THIS IS RIDICULOUS. I DIDN'T EVEN GET TO SIT IN THE COCKPIT!

I DON'T CARE WHAT HE SAYS. IT'S MORE FUN RIDIN' HOME IN HERE THAN IT WAS UP THERE!

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## ECONOMY RUN

(continued from page 33)

in the run. But I'm getting my own car ready for the drags and getting gas mileage hasn't been much of a concern."

Car Craft: What did you feel like while you were waiting for the flag at the start?

Ned: "Very nervous and excited. I sort of lost this after 1/2-hour or so on the road."

Marty: "Yeah, I was excited too, but man, it sure felt great!"

Dareth: "Keyed up. Keyed up with a capital 'K'. I was so nervous and excited all at the same time. I guess I didn't get over being that way all day, 'cause I didn't want to go on at Flagstaff. I got over that after a short night's sleep, though."

Car Craft: How do you start out in the morning when economy is so very important?

Dareth: "Well, you start the car without any wild throttle work. Just start it up and let the automatic choke have at it. It was below freezing when we left Flagstaff at 4 a.m. Anyway, you just stay under a certain speed until the engine is warmed up good. This speed varies with the car and is usually kept a trade secret by the teams. When you pull out from a stop with the Dart, you want to pull between 8-10 pounds vacuum. You don't have a vacuum gauge on the run, of course, but you get so you can tell when you're right."

Car Craft: What was the hardest part of the run?

Dareth: "Hardest for me was getting used to the eastern Tollways, stopping every few miles to pay toll isn't like the California freeway. I guess Ned is used to them though, and Jean had been along last year."

Jean: "Frankly, getting up so darned early in the morning. The last hour of the daily route was always hectic, trying to get your car into the impound on time, etc."

JoJo: "Ned feels the strong cross-and head-winds and those long stretches of road in the mid-west were hardest. For me, it was trying to keep us on time with a little cushion at the end of each day. I had to learn how to use a slide rule and all that stuff right on the run."

Marty: "I had trouble concentrating on what I was doing on those long straight roads too. All that flat country tends to make you too relaxed."

Car Craft: What was the most exciting part of the trip?

Marty: "Driving down 7th Avenue in New York. There were people everywhere and J. C. Agajanian flagged us

in right there at Times Square."

Ned: "I liked the mountains. No guard rails and sheer-drop cliffs kept everything exciting to me. Also, I got the best miles per gallon during that stretch from Durango to Pueblo."

Jean: "Chicago!"

JoJo: "The whole thing, I guess. This was my first trip to Los Angeles and New York. At the end of every day there were crowds of people to welcome us, and all sorts of excitement. I think Ned forgot to tell you that after the last gas check was made, he just couldn't help standing on it. I suppose that would help get the kinks out after such a nerve-racking drive."

Dareth: "Golly, I got so excited when I got to around Kansas and started seeing all those little "gingerbread" houses, almost like something from the Wizard of Oz. I really got a kick out of working so hard trying to beat that Mustang. I was just barely ahead of it at Flagstaff. The Dart ran 21.3882 and the Ford got 21.3740. But the next day we hit the mountains, and I just put my foot too far down somewhere, be-

## COMING:

### GASSER GOES FUELER

See how Dave Zeuschel builds one of his famous fuel Chryslers for the giant of the gassers — JIMMY NIX

## NEXT MONTH in Car Craft

cause from there on in the Mustang led me by about two-tenths of a gallon. I ended up with 20.5399 and he had 20.7464."

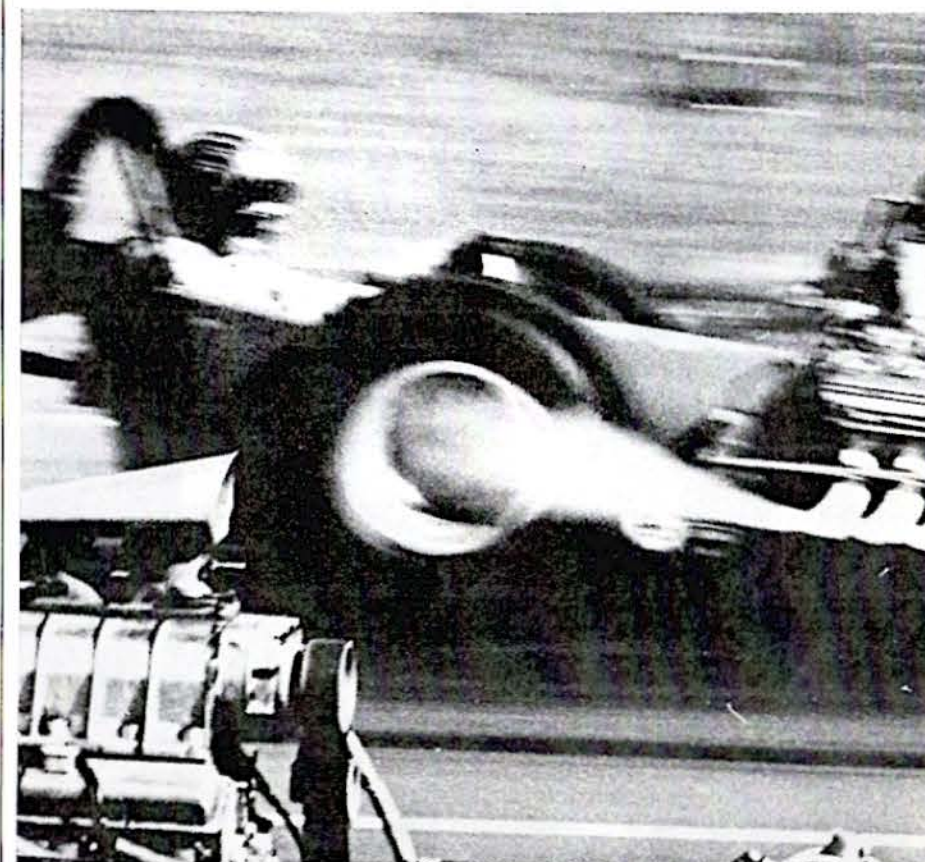
And with that question the interviews were over. Dareth wanted to ride the subway, go to Coney Island, see the Statue of Liberty and attend a play. Marty felt about the same. JoJo was heading home to get some sleep and study for missed school hours, while Ned was itching to get his I/Stocker back on the drag strip.

And me? Well, even for a member of the press, the trip can be long and tiring. It has been a superior experience, however, since the Mobil people do a superb job with run organization, facilities, etc., making the reporters job so much easier. And I really learned about economy. In fact, I'm thinking about going again next year. Only this time behind the wheel of an official entry. With just a little luck and lots of practice, maybe . . .

JULY 1965



THE AUTOMOTIVE GO & SHOW MAGAZINE



• FURIOUS COMPETITION? — If those wild drag races are your cup of tea you had better stick with Car Craft. When there is an important event being held, Car Craft is always there to bring you the very first reports on all the exciting action — and photos — nobody has 'em any better. Check our coverage of the big NHRA Springnationals in the August issue and you'll see what we mean. On sale July 22nd!

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## FORD-AURORA SLOT CONTEST READY TO ROLL

CAR CRAFT offers FREE trip to NHRA "WINTERNATIONALS"

IT'S THAT TIME of year again. The grass is green, the strips are fast, and the cars are out in force. From hill and dale the trained ear detects and sorts out the scream of a cornering Cobra, the roar of a digging 2-plus-2, the purr of a tooling Mustang on the prowl.

But listen more closely, and you'll find the noise isn't all outdoors. A lot of the revving and growling is an *inside* story.

For the fourth and biggest running of the oldest and richest cooperative venture in the model car world, the Ford-Aurora Grand National is under way again.

In thousands of hobby shops and slot-racing emporia the length and breadth

of America, junior jalopy jockeys are tuning their Mustangs for high stakes and fast action. The big prize beckons—a \$2000 college scholarship, PLUS a real-live, honest-to-goodness Mustang GT 2-plus-2 Fastback, PLUS, and get this, an all-expense trip to the National Hot Rod Association's Winternationals Championship Drag Races. Ford and Aurora Plastics are donating the Mustang and the scholarship, while CAR CRAFT magazine is jumping in this year with the car enthusiasts' "dream" trip.

So as millions of skilled hands oil gears, tune motors and test out parts for one of Aurora's HO-scale Ford "Thunderjets," millions of anxious inner voices are asking, "Could it be me?"



Above is the thrilling climax to a previous year's competition. Partially obscured by an engrossed slotser is Bill Silverstein, Vice President of Aurora Plastics.



Stirling Moss (center), one of the greatest racing drivers of all time, joins hands with the four semi-finalists just before the Grand National Finals race in 1963.

And you know what? It could.

The rules of the Ford-Aurora Grand National competition are simple and uncomplicated... just the ticket for model road racers itching to test their souped-up specials against neighborhood—and maybe even national—opposition. Complete rules and entry blanks are available at neighborhood racing centers and hobby shops where enthusiasts can also acquire the Ford-Aurora Competition Paces developed especially for the contest.

The Paces, selling for \$3.98, include two metal-plated body shells adaptable for use with any Aurora "Thunderjet," as well as a hi-speed hand control with two spade terminals, a vial of high-traction Tire Trac, a series of numbered decals and operator licenses.

On the local level, Ford-Aurora slotsters will race against one another for the real thrill of direct competition, man to man and car to car, that clocked time trials don't always provide.

Each participating hobby shop or race center will conduct a series of eight weekly competitions, with a medal awarded each weekly winner. In the ninth week, a race-off will determine the top eliminator for the store, who will receive a handsome trophy... and become eligible to proceed to the state-wide and regional competitions. In the interest of uniformity, the tiny terrors will then test their mettle against time.

Finally, if the car is fast, the track is likewise and the young speed merchant can really handle his machine, he can move through the national semifinals to his shot at the Big Prize—the Mustang GT, the scholarship, the NHRA Winternationals trip and the adulation of a nation of builders and racers. The Ford-Aurora Grand National Championship of 1965!

Big time? You said it. But what's behind this strange new national malady that brings sweat to the brow, blisters to the fingers and dreams of glory to the hearts of American youth? The automobile, that's what. What else?

Not the juggernaut Daddy-O makes his scene in, though. It's the heyday of the miniature marvels—the fast and furious new racing sport that's the biggest thing to hit the hobby world since the golden age of the electric train: the slots!

Big time? And how! More than two million buffs participated in the Grand Nationals in 1964—and heaven knows how many more were spinning around their own home tracks. No one's even TRIED to count them... but Ford, Aurora and Car Craft hope to draw even more of them into the contest this year.

Entry blanks for the Ford-Aurora Grand Nationals are available at neighborhood hobby shops right now. May the best eliminator win.

JULY 1965

## YOU AIN'T SEEN NOTHIN' LIKE IT HERE CUM'S WILD WOODIE

\$1.00  
Retail

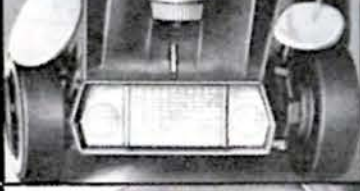
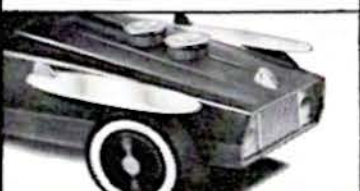


Dig the authentic-looking record disc hub caps... the "cool" surfboard fender effect... hood ornament is a center board from a surf board.

It's ship-side sophistication with fancy porthole windows, real simulated wood grain paneling and "knuckle-buster" ship steering wheel.

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Roof has storage compartment for three surf boards in the kit, way-out wide slicks and dual stack tool!



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- Show car look

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## GEETO TIGER

Ride shotgun with a top Pontiac test driver as he puts a hot GTO through its paces. You'll hear authentic sounds as the GTO screams through the ride and handling loop, screams around the high-speed track and squeals to a panic stop from 100 mph. The flip side is the hit song that's sweeping the country, "GeeTO TIGER," performed by the new swingers, the Tigers. Send 50c (60c in Canada) to GeeTO Tiger, P.O. Box 456-cc, 196 Wide-Track Blvd., Pontiac, Michigan.



## RENEW SCREW DRIVERS

Driven by any 1/4" electric drill, this device will grind Phillips and regular screw drivers to their original shape in a few seconds. Reshapes any shank size Phillips screw driver several times before the flutes are completely unusable. Chisels, punches and sets can also be returned to their original shape. Spring-loaded design gives the proper grinding pressure for all tools. Info from: P & T Products, P.O. Box 12554-cc, Charlotte, N. Carolina.



## GOOK PLASTIC

Gook, a new non-toxic, non-inflammable plastic for hobbyists, spreads as easily as butter and dries to a stonelike hardness. It will adhere to any surface and, once dry and hard, can be stained or painted. It is also stainless. Painting makes the Gook-coated object waterproof. It is water soluble and easily washes off hands, clothes or any surface. The 5 oz. tube sells for 75c and the 24 oz. can for \$1.50. Available at hardware stores, super-markets, etc.



## DISPLAY BUBBLE

Pyro Plastics Corp. has just introduced a 2-way display bubble for protecting and displaying 1/32 scale car models, ships, pistols, airplanes, etc. It can be used for table display or as a wall plaque. Bubble is clear plastic, base can be painted any color desired. Name plate mounts inside the case. Keeps models dust-free to end tiresome cleaning. Available at hobby shops.



## NO-SHO VALVE STEMS

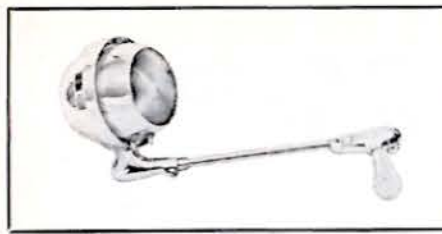
No-Sho lifetime valve stems are designed for custom wheels and tubeless tires. Heavily chrome-plated valves are bolted into the valve stem holes and fit almost flush with the rim. Tire is filled with a removable stem. This is the final touch of beauty to really set off those custom wheels. Available from Accessories International, 2627 San Fernando Road, Dept. CC, Los Angeles 65, California.



## TRI-LOK 500

New floor shift conversion features reverse and low gear lockout, adjustable stops and set screws, neutral locating device, double spring loaded and large area nylon washers. Shift and lockout pins are made of 1/2" heat-treated material. 7/16" hard-drawn linkage rods are used to minimize flexing when shifting. Has a chrome shift knob with a shift pattern insert. Price: \$55.73. Write: Hollywood Deep Tone, 21300 Sherman Way, Dept. CC, Canoga Park, California.

CAR CRAFT



## TWIN BEAM SPOTLIGHT

A new "Twin beam" spotlight is now available. One of the beams is a powerful illuminating light for finding street signs, house numbers, road markers, etc. The other is a flasher unit for emergency signals that is an amber color. Easily installed, the spotlight can be rotated a full 360 degrees. It's real handy for backing up in dark, tight places. Made by Unity Manufacturing Company, it is available through most automotive accessory outlets.



## MOTORCYCLE COVERS

Durable, waterproof cover completely covers a motorcycle yet weighs only a few ounces and stores in a small carry-sack. Cover has strong grommets on the bottom so it can be locked in place for security or to prevent wind damage while carrying bike on truck or trailer. Price: \$14.95. Calif. residents add 4% tax. Money back guarantee. Specify make and model motorcycle. Write: Motorcycle Covers, P.O. Box 4156 Catalina Station, Dept. CC, Pasadena, California.

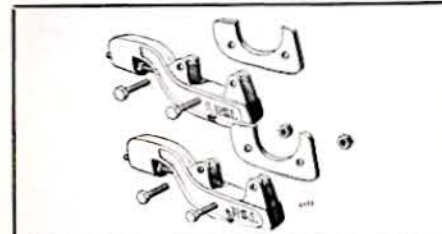
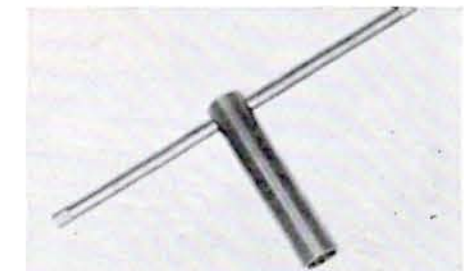


## P.U. OR WOODIE

Kicking off a new series of models called the Wild Ones is Model Products Corporation's 1/25 scale kit which can be built as a '29 Ford pickup or '29 Woodie. Both the pickup and the Woodie come in one-piece bodies. There are two complete engines: a '29 Ford and a '50 Ford flathead V8. The pickup features a roadster top while the woodie has printed simulated wood paneling. Surfer Hot Curl, his surfboard and Sting Ray bike are included. Kit price is \$1.49. Available at hobby shops.

## CRAGAR LUG WRENCHES

Cragar now offers a low priced lug wrench (thin wall socket and handle) designed for Cragar S/S "Mag" Wheels, and other make custom wheels. Stock lug wrenches will not fit custom wheel nuts without damaging the wheel center. #10-9940 fits all models except 13" wheels on Chrysler products, which takes #10-9941. Both models are priced at \$3.00. Available at Cragar dealers or Bell Auto Parts, 3663 E. Gage Ave., Dept. CC, Bell 49, Calif.

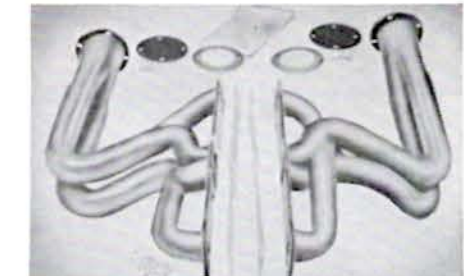


## REAR SPRING HANGERS

Extra strength, ductile steel castings aid in converting '28-'48 Fords to a late model rear end using an open drive-shaft. PSI spring hangers are adaptable to the stock Ford spring using a rear end of your choice. Kit includes adapter plates and a set of shackles. PSI variable suspensions can save much time and money for the car builder. For full information write: PSI, 9103 E. Garvey, Dept. CC, Rosemead 19, California.

## DOUGLASS HEADERS

In addition to the headers already available for almost all cars, Douglass now offers complete kits for the 1964-65 Tempests and GTO's. These are of the popular under chassis exit design featuring precision mandrel bent headers, complete with nuts, hex washerhead bolts, gaskets and easy installation instruction sheets. Header pipes run to collector tubes with caps. The full story is available from: Douglass Muffler Co., 5636 Shull St., Dept. CC, Bell Gardens, California.



## CHEVY TRACK CAM

Frank McGurk, former Sprint Car Champion, Indy driver and mechanic, has developed an all-new Chevrolet V8 Roller Follower Camshaft and engineered assembly especially for circular track racing. Maximum torque and acceleration is developed over the entire rpm range used in circular track racing. Extra jump is provided getting out of the turns. Cam and complete assembly is \$316. Available through McGurk dealers or write: Frank McGurk Eng., 13228 Halldale Ave., Dept. CC, Gardena, California.

JULY 1965

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Valve gaps adjusted with precision accuracy eliminating valve clearance errors and boosting horsepower. SEE the valve clearance on the dial indicator before, during and after adjustment. \$59.50

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# CC/GASSERS



**HE IS SO DUMB**—that he thinks that a B/Gasser is an insect repellent.

**POLITACHING**—a car club that believed they were being treated unfairly by the local sheriff decided to start a campaign to get him out of office. They had a meeting to come up with a name for their movement and the best suggestion was this: "Impeach Fuzz."

**THE NAME GAME**—the car manufacturers seem to be favoring the water creatures now. You know, Sting Ray, Barracuda, Marlin, etc. So I guess now Volkswagen will come out with a smaller bus called the "Polywog'en."

**RODDER'S PRAYER:**  
Now I lay me down to sleep,  
I parked my hot rod in the street.  
If it should roll before I wake,  
I pray the Lord will pull the brake.

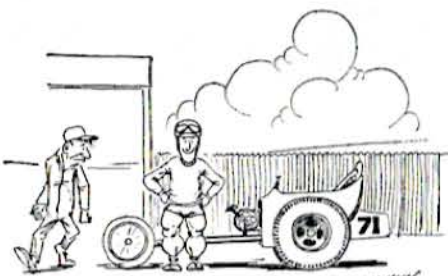


No! Let's go in your car.

**LAME LIMERICK**  
There once was a goof-off named Rickets  
Who got busted holding too many tickets  
The heat got so mad  
They picked up the lad  
And he's vacationing now in the thickets.

**SIGN IN A SLOT RACING PARLOUR**  
— "Please! No Le Mans starts."

**SEEN**—on a raunchy roadster in Pasadena, "Don't laugh, it might have been your mother's."



**SEEN ON A TOMBSTONE**—"I tried to put a tiger in my tank."



**CHEERS**—  
A toast to our old buddy named Brett  
Who's final e.t. is not known to us yet  
He was a most unlucky fella  
Had no chute, used an umbrella  
And was strained through the rope safety net

**MOVING OUT**—the closest I have ever come to doing a wheelie was when my car seat caught on fire and I got out before unlatching my seat belt.

**FREAK MEET**  
The monsters had a car show  
And the judges were all there.  
They were giving out the trophies  
To each class in the affair.  
Best Altered went to Frankenstein,  
Flat head and power packed.  
Custom body went to Egor,  
Compact size with a fast back.  
Upholstery honors were the Mummy's;  
He was all tucked and rolled.  
It was a cool occasion,  
It made your blood run cold.  
They were awarding the best fueler  
When all of the judges did retire.  
They found them the next morning  
Beside the woody of Vampire.

**NEW ITEM**—there is a new toothpaste on the market for motorcyclists. It is called "Bug Out."

*If you've heard a good one lately, let's hear it. Whether it's a funny tale, gag or even a wild poem—Car Craft will pay you \$5.00, if accepted. Address all material to "CC/GASSERS," Car Craft, 5959 Hollywood Boulevard, Los Angeles 28, Calif.*

## HOW DUMB ARE YOU???????? QUIZ



A — Garlits who?

B — No, you can't use the car tonight.

C — Which way to Bonneville, Mack?



A — A mean fly swatter

B — A guy stepping on a long nail

C — Chinese foot scratcher



A — A man opening one of those flip-top cans

B — A butcher slicing baloney

C — A hand-carved piston

# CROWER hi-draulic hauler CAMS

Here is the high lift, quick off the line, top end power Cam that brings you first to the lights. The Crower Hi-Draulic Hauler is the Hydraulic Lifter Camshaft with the winning ways built in. Silent Power. Engineered for use with stock valve train components to coax every ounce of power from every drop of gas. Declared Unbeatable at Drag Strips everywhere. Available in all grinds with up to .525 lift!! Don't wait for your competition to pull a hole job on you, YOU be first with the winner... check out the Crower Hi-Draulic Hauler today. Ground on new billets. A MUST for competition stockers determined to win. Full list price only \$80.00.

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fully rollerized Camshaft continues to trailer competition everywhere. Stuff a Crower Imperial Cam in a competition engine, add a driver with a will to win, and ADD UP THE WINNINGS. You can join Garlits, Kalitta, Hoover, Leavitt, Lechien and many other top money winners. The difference between you lose... and YOU WIN... may well be the extra horses the Imperial hands you as a bonus as it wipes out friction... and... you can forget timing chain problems forever. The Imperial installs like stock, no machining of the block is necessary, stock cam bearings remain in place. The Crower Imperial is the exclusive Cam that takes the friction out of the valve train. Complete Imperial Roller Cam and Kit \$450.00 list price. Camshaft only, roller, flat or hydraulic tappet \$300.00 list price.

## RACERS:

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MAIL TO: CROWER CAMS AND EQUIPMENT CO.  
3333 Main Street, Chula Vista 16, California

Enclosed please find \$ \_\_\_\_\_, rush items checked below.  
1965 catalog \$1.00. Large size embroidered emblem, 2 decals, catalog \$3.00.  
T-shirt (what size please?), 6 assorted decals, 16 Iron-Ons, catalog \$5.00.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_



Foreign and Sports Car Owners here's good news. The Crower Imperial is now available for your engine. That's right, the same "live bearing" cam used by winners in Oval Racing, Dragsters, Super Stocks and Marine Racing is now ready for you. NEW Steel Billet Imperial Cam, roller or flat tappet, for any 4 cylinder engine \$210.00 list price. NEW Complete Cam and Kit, roller or flat tappet, with aluminum roller tappets, push rods, dual springs and retainers, for any 4 cylinder engine \$360.00 list price. Racing Re-grinds: A new winning profile ground on your stock cam, you select from over 30 grinds available, from \$45.00.



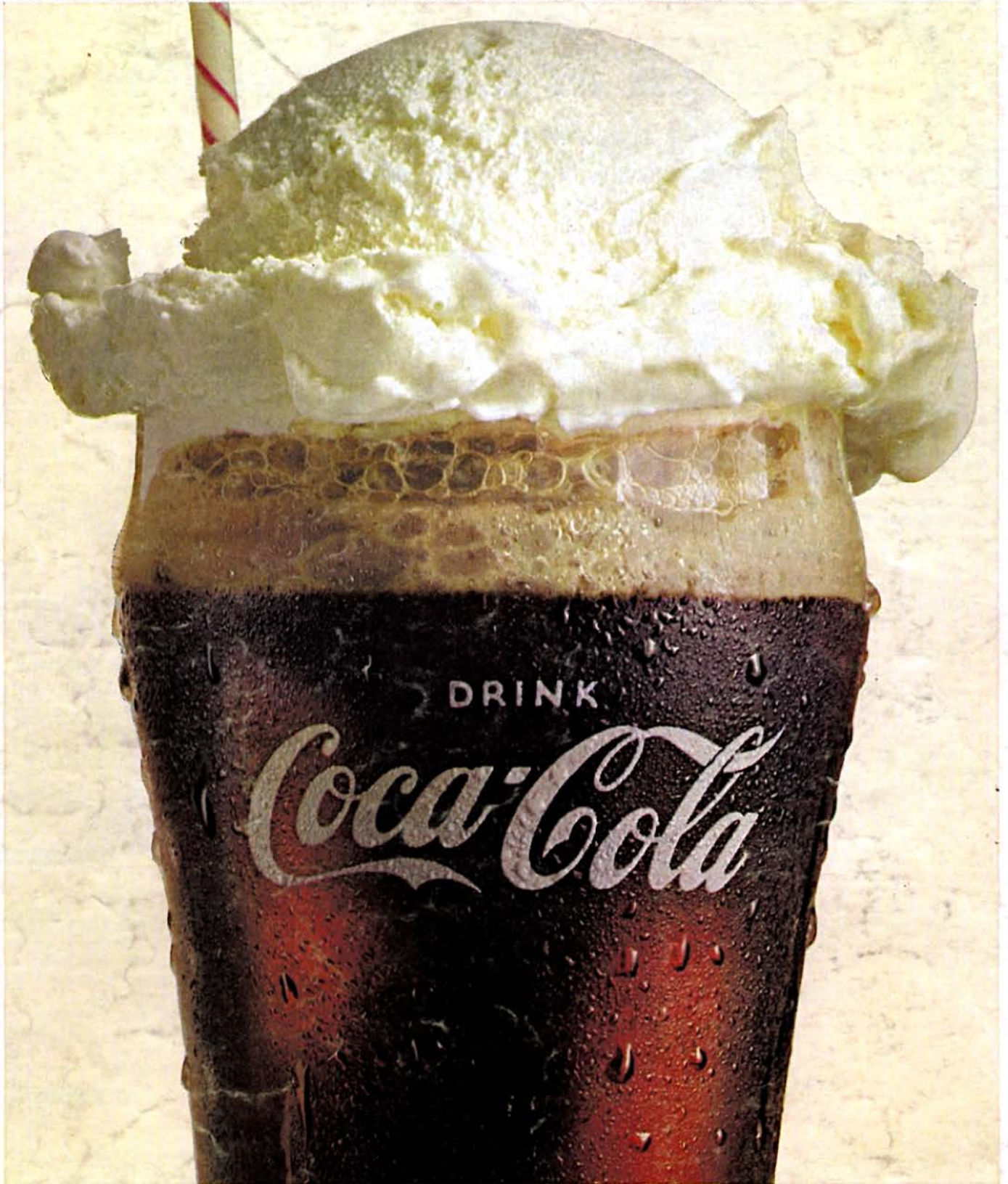
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